12th PIT IKA

Annual Scientific Meeting of Indonesian Pediatric Society

in conjunction with

8th Asia Paediatric Pulmonology Society (APPS)
Annual Scientific Congress

Padang, 7-11 October 2023

Pandemic Recovery: restoring the future of children

ABSTRACT BOOK

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Foreword
President of Indonesian Pediatric Society

Assalamualaikum, Wr, Wb

Best wishes for all of us.

Indonesia's child population is in fourth place with the highest mortality rate for children under five years old. During the COVID-19 pandemic, there were many disruptions in health services, including children's health. COVID-19 has an impact on the condition of children in Indonesia from various aspects, including children's health, nutrition, psychosocial and mental health, welfare, learning as well as economic aspects.

The 12th Annual Scientific Meeting of Pediatrics (PIT IKA) held this year also in conjucntion with the 8th annual congress of the Asia Pediatric Pulmonology Society (APPS), has the theme "Pandemic Recovery: restoring the future of children". This theme was chosen to align with IDAI's (Indonesia Pediatric Society) work plan to once again improve the health level of Indonesian children.

The role of pediatricians is very important to support the quality of Indonesian children's health, especially during this pandemic recovery period, not only at the hospital service level, but also at the community level, starting from promotive, preventive (immunization), curative and rehabilitative aspects, to produce the best quality of Indonesian children in the future.

I would like to thank my colleagues who have participated in PIT IKA Children's health services can be provided well, in this pandemic recovery era.

Wassalamu alaikum warahmatullahi wabarakatuh,

dr. Piprim Basarah Yanuarso, Sp.A(K)
President of Indonesian Pediatric Society

Foreword
Organizing Committee

Assalamualaikum, Wr, Wb

May Peace Be Upon Us All

Respectful Professors, colleagues and participants of 12th PIT IKA – 8th APPS, 2023.

The Covid-19 pandemic that has occurred since early 2020 has presented its own challenges for us in maintaining and developing professionalism as doctors/ pediatricians. "Pandemic recovery: restoring the future of the children" is the theme we chose to describe the efforts to improve the health of Indonesian children.

7 (seven) Working Group (Allergy-Immunology, Endocrinology, Gastrohepatology, Infections and Tropical Diseases, Cardiology, Respirology & Pediatric Imaging) and 5 Task Forces (Breast Milk, HIV, Immunization, Adolescents & Stunting) were involved in the event in collaboration with APPS (Asian Pediatric Pulmonology Society). A series of scientific activities contain of Keynote Speech, Plenary Session, Parallel Symposia, Breakthrough Symposia, Lunch Symposia, Meet the Expert, Workshop and Free Paper Symposia will take place on 7 – 11 October 2023.

The presence of experts from national and international is expected to be able to provide increased insight and understanding in accordance with related fields to us. Not to forget this momentum is also a facilitation for young IDAI members (PPDS) and general practitioners to showcase their research skills and other abilities.

We would like to thank the professors and colleagues for their presence at this event. We also thank the Partners and all parties who participated in making this event a success.

Finally, we would like to convey our greetings: Congratulations on participating 12th PIT IKA – 8th APPS, hopefully it will bring benefits for Indonesian children.
Wassalam and stay healthy,

dr. Rusdi, SpA(K)
Chairman of the 12th PIT IKA – 8th APPS

contents

YOUNG RESEARCH AWARD

AI 48

Relationship of Systemic Lupus Erythematosus Disease Activity with Children's Quality of Life in Saiful Anwar Hospital Malang East Java

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Background: Quality of life is an important outcome in the management of children with chronic conditions such as Systemic Lupus Erythematosus (SLE). SLE is an autoimmune, multisystem disease, characterized by periods of active disease and remission, and long-term monitoring. High disease activity SLE has an impact on children's quality of life. The Pediatric Quality of Life Inventory Rheumatology Module (PedsQL-RM) questionnaire has been proven valid and reliable to use for SLE.

Methodology: A cross-sectional study was performed on patients aged 11 to 18 years with SLE in Saiful Anwar Hospital Malang from January to June 2023. Assessment of disease activity using SLEDAI score, quality of life in children was assessed using PedsQL-RM. The questionnaire consisted of child's report and parent's report, each measuring five dimensions: pain, activities, treatment, worry, and communication. Statistical tests to determine the relationship used the Spearman correlation test with a significant level of $p < 0.05$.

Results: There were 32 children, 94.7% were girl and the mean age was 14 years. The highest disease activity score was moderate activity (46.5%). There was a significant negative correlation between PedsQL-RM and SLEDAI (p:0,001, r:-0,666) but there were no differences in the quality of life between the child and parent reports (p>0,05). The correlation between disease activity and pain was significantly related (p: 0.023, r: 0.472) and treatment was also significantly related (p: 0.004, r: -0.578). There was no correlation between disease activity with other dimensions (activities, worry, and communication).

Conclusion: There was a significant negative correlation between disease activity and children's quality of life SLE. The correlation is moderate for pain and treatment.

Keywords**:** Quality of life, PedsQL-RM, SLEDAI score

Endo 38

The Association of Serum Cortisol Level and Sepsis Outcome in Children: A Systematic Review and Meta-Analysis

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Objective: The activation of the hypothalamic-pituitary-adrenal axis as a response to stress in pediatric sepsis, characterized by increased serum cortisol levels, has a potential role in predicting sepsis outcomes. This meta-analysis aimed to determine the association between serum cortisol levels with mortality and duration of hospitalization in children.

Methods: This systematic review and meta-analysis was based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guide. Cochrane Library, Pubmed, Medline, and Google Scholar were searched with keywords: "serum cortisol", "OR", "adrenal insufficiency", "AND", "outcome", "OR", "mortality", "OR", "length of stay", "AND", "sepsis", "AND", "child". The observational study (cohort, case-control, and cross-sectional study) included children under 18 years old with sepsis was selected. Mean serum cortisol level, duration of hospitalization, and mortality data were extracted from eligible articles. Random-effect meta-analysis was performed.

Results: eight studies, **2 cross-sectional and 6 prospective,** met eligibility criteria and were included in this study. Seven studies (570 patients) provided data for survival and four studies (429 patients) provided data for the duration of hospitalization. **Sepsis survivors had significantly lower serum cortisol levels** of 14.53 µg/dL compared to non-survivors (mean difference=-14.53; 95%CI=-26.18 to -2.87; p-value 0.01). **Patients with high cortisol levels had a 6.8-day longer duration of hospitalization compared to the low-cortisol group but were not statistically significant (**mean difference=-6.8; 95%CI=-25.10 to -11.51; p-value 0.47).

Conclusions: There is a significant correlation between serum cortisol levels and sepsis mortality. More intensive treatment needed in pediatric sepsis patients with high cortisol levels to prevent mortality.

Keywords: children, cortisol, mortality, outcome, sepsis

MISCL 26

Zink Level Analysis in Children with Speech Delay

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Background: Speech delay will affect the outcome of a child, such as intelligence disorder, learning difficulties, and behaviour disorder. Zinc is quite crucial in the process of neural formation, regulates the stem cell proliferation process, neurogenesis, and activation of neurotransmitter in central nervous system during children development, therefore it is relevant with children's motoric and linguistic development in early years. This study aimed to determine relationship between zinc levels and speech delay in children.

Methodology: This cross sectional study was conducted in the outpatient clinic at the DR Wahidin Sudirohusodo Hospital in February-May 2023. A total of 60 patient aged 6 to 36 months old were included. The sample were divided into two group consist of 30 children with speech delay and 30 other children without speech delay. Zinc levels were analysed using *Atomic Absorption Spechtrometer* (ASS). Demographic data, weight, height, nutritional status, hemoglobin, ferritin, and plasma zinc level were recorded then analyzed using SPSS version 10.

Result: Zinc deficiency in speech delay group was 28 (93.3%) patient and without speech delay was 15 patient (50%). Chi Square analysis showed there was a significant difference between the two groups with a p value = 0.000 ($p < 0.05$) with an odds ratio of 14.000 (95% CI 2.818-69.562).

Conclusion: In this case, children with zinc deficiency will have a risk of speech delay 14 times compared to children with normal zinc status. There was significant relationship between zinc levels and speech delay in children.
Keyword**:** Children, Speech delay, zink level

Gastro 56

Abdominal Migraine and Psychological Distress in Indonesian Adolescents: A Multi-Center School-Based Study

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Background: Abdominal migraine (AM) is a common cause of chronic and recurrent abdominal pain that causes impairing school performance and overall quality of life. Very little is known about abdominal migraine in adolescents. This study aims to evaluate AM and psychological distress in Indonesian adolescents.

Methodology: A cross-sectional, multi-center study focused on junior and senior high schools was conducted. This study involved adolescents aged 13 to 18 years from Central Java, East Java, Bali, East Nusa Tenggara, and South Kalimantan. To determine the presence of AM, the self-reported ROME IV questionnaire for 10 years of age and older which translated into Bahasa Indonesia was used. The 10-item Kessler Psychological Distress Scale was used to gauge psychological distress. Institutional review board exemption was granted by the Ethical Committee in Health Research of Dr. Soetomo General Academic Surabaya (No. 1506/105/1/VI/2022).

Results: This study included 3956 adolescents (62.1% were females; median age was 15 years). The overall prevalence of AM was 1.1%. Abdominal migraine was more frequent in females (OR 5.87 95%CI 2.09–16.47; p<0.000) and those living in urban areas (OR 3.30 95%CI 1.29–8.42; p=0.008). Amount of 26.3% (1039/3956), 20.8% (821/3956), and 24% (949/3956) students indicated mild, moderate, and severe psychological distress. More students with moderate to severe psychological distress (OR 3.12 95%CI 1.59–6.11; p<0.000) had AM in this study.

Conclusion: Abdominal migraine is more common in females and those living in urban areas. Psychological distress may be noted to be a risk factor for abdominal migraine in adolescents.

Keywords: abdominal migraine, adolescents, psychological distress, ROME IV criteria

Res-2-06

Pre-Natal and Post-Natal Probiotic Supplementation as Asthma Prevention in Infants: A Systematic Review and Meta-Analysis of Randomized Controlled Trials

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Background. Asthma is a chronic, heterogeneous disease of the airways prevalent in children that increases the risk of newborns requiring long-term medication and frequent doctor visits. Probiotic exposure could influence immune system development and reduce the risk of subsequent allergic disease development. Several trials using different probiotic species have different results in asthma prevention. This meta-analysis examined whether probiotic supplementation during pregnancy or infancy could prevent infant asthma.

Methods. Published reports from PubMed, Cochrane, and Google Scholar were systematically searched until July 19th, 2023. Randomized controlled trial studies using different probiotic species were included in this review. We analyzed the effects of probiotic supplementation on asthma incidence in infants. Meta-analysis was performed using Cochrane RevMan 5.1 and adhered to the PRISMA guidelines.

Results. Fourteen relevant studies enrolled 3954 infants with a family history of allergic diseases were included in this review (1971 infants receiving probiotic supplementation, 1983 infants receiving placebo). Our pooled analysis found that the incidence of asthma was significantly lower in the intervention group compared to the placebo group (RR: 0.87; 95% CI: 0.77, 0.99; p=0.03). Subgroup analysis revealed a significant reduction in asthma incidence in infants receiving probiotics in the post-natal period (RR: 0.65; 95% CI: 0.47, 0.89; p=0.007).

Conclusion. Probiotic supplementation lowers the risk of asthma incidence in infants. The effect is more significant in infants receiving placebo supplementation post-natal than in the pre-natal period.

Keywords**:** Probiotic, Supplementation, Asthma, Infant

ITD 21

Characteristics and Outcome of Multisystem Inflammatory Syndrome In Children (MIS-C) in Prof. Dr. I.G.N.G Ngoerah General Hospital, Denpasar, Bali

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Background: Multisystem Inflammatory Syndrome in Children is a medical condition that occurs in children who have been infected with the SARS-CoV-2 virus. This condition had clinically various presentation ranging from mild to multiple organ dysfunction. Further comprehensive studies are required to improve the insights into MIS-C manifestations, treatment, complications, and outcome in children. We performed this observational study to assess the spectrum of clinical characteristics and outcome of MIS-C.

Methodology: We conducted an observational study of children 0-18 years old between August 2022 – June 2023. Patients were included if they met criteria for MIS-C based on WHO guidelines. Data about sign, symptoms, COVID-19 vaccine history, laboratory examinations, and treatments were collected.

Results: There were 38 patients diagnosed with MIS-C. Most of them were male (55.3%). Fever (84.2%) and gastrointestinal involvement (68.4%) were most common. Among 38 children, 26 chidren (68%) didn't get COVID-19 vaccine. Most of the patient had reactive SARS CoV-2 antibody titer (84.2%), also the sign of inflammation by elevated Procalcitonin (78.9%), CRP (42.1%), and Ferritin (34.3%). The management of MIS-C included the administration of intravenous immunoglobulin (IVIG) (58.7%), high-dose methylprednisolone (67.4%), and maintenance-dose methylprednisolone (95.7%). There were 11 children (28.9%) who did not survive and most of them had cardiovascular involvement (47.4%) and kidney involvement (45.5%).

Conclusions: MIS-C is characterized by multiple organ involvement with reactive SARS CoV-2 antibody and sign of inflammation by elevated laboratory markers. Among the children who didn't survive, cardiovascular involvement and kidney involvement were common.

Keywords: MIS-C, COVID-19, Inflammatory syndrome, Outcome

MISCL 33

Efficacy of Probiotic Bacteria and Yeast Strain to Erythrocyte Index and Mentzer Index on Children with Iron Deficiency

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Background: Probiotics are live microorganisms that can repair the histological structure and restoring the microflora of intestines which were expected to improve the absorption function of nutrients (especially iron), therefore it can be a potential solution to be developed, to overcome the problem of iron deficiency anemia in children.

Objectives: The aim of this study was to determine the efficacy of giving a combination of probiotic strains of bacteria and yeast in the treatment of children with iron deficiency.

Methods: This study was a randomized controlled trial (RCT), double blind, which was conducted on 131 children with iron deficiency that was divided into 3 groups randomly selected. Group A (probiotic bacterial and yeast strains), B (probiotic bacterial strain) and C (placebo). Probiotic was given for 7 days and standard therapy for 30 days, then the erythrocyte index and mentzer index were evaluated.

Result: There was a significant increase in MCV (p=0.000) and MCH (p=0.000) values after treatment, but a decrease on the Mentzer index after treatment not statistically significant. The MCV value in group A was significantly higher than B (p=0.025) and C (p=0.011). Meanwhile the difference in MCV, MCH and menzter index values in the three groups did not show a significant difference after being given treatment.

Conclusion: Children with iron deficiency who received probiotics combined with bacterial and yeast strains showed a higher MCV values than those who received probiotics with bacterial strains or placebo along with standard therapy.

Keywords**:** Probiotics, iron deficiency, mentzer index, erythrocyte index, children

ORAL PRESENTATION

CAR 43

Profile of Valve Involvement in Patient with Infective Endocarditis in Children

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Background: Infective Endocarditis (IE) is a quite rare disease among children. However, when it occurs it can lead to severe consequences. IE is less common in children than in adults, and it is associated with high morbidity and mortality due to prolonged treatment time and related complications. A history of congenital heart disease is the most common risk factor. In children with IE, congenital heart disease has been described as the main predisposing factor. This study to describe the profile of valve involvement in patient with infected endocarditis.

Methods: A descriptive cross-sectional study was conducted from 2018 to 2023, including patients 18 years or below, hospitalized at Dr. Soetomo Hospital, and diagnosed as Infective Endocarditis. We collected patients' demographic data, length of stay, valve involve, outcome from medical records.

Result: There were 43 infected endocarditis patients hospitalized in the 2018 - 2023 period consisting of 16 (37.2%) male and 27 (62.8%) female. The youngest is <1 year old and the oldest is 17 years old (8.81 ± 4.95). There was 24 (55.8%) patient infected endocarditis with congenital heart disease. Aortic valve was the most frequent valve involved (34.9%), followed by pulmonal valve (20.9%) and tricuspid valve (20.9%). Minimum of LOS was 5 days and maximum of LOS was 81 days. In-hospital mortality was 8 patient (18.6%), with the most common valve involved was mitral valve (50%).

Conclusion: Aortic valve was the most frequent valve involved with patient infected endocarditis but the mortality was higher in mitral valve.

Keywords: infective endocarditis, aortic valve, pulmonal valve, tricuspid valve.

CAR-2-04

Comparison of Two Ultrasonography Predictors to Determine Fluid Responsiveness in Critically Ill Pediatric Patient: A Meta-Analysis

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Introduction: Ultrasonography as an adjunct tool to assess fluid responsiveness in critically ill pediatric patients has attracted attention. The most studied predictors, respiratory variation in aortic blood flow peak velocity (ΔVpeak) and respiratory variation in inferior vena cava diameter (ΔIVC), lack a clear consensus on reliability. This meta-analysis compares the two predictors, aiming to offer evidence-based guidance for fluid management in this population.

Methodology: PubMed, ScienceDirect, and Embase databases were searched for relevant publications through July 2023. Studies specifically addressed the accuracy estimates of respiratory variation in ΔVpeak and ΔIVC in predicting the fluid responsiveness in critically ill pediatric patient.

Results: The analysis involved 19 studies encompassing a cohort of 674 children, primarily focused on mechanically ventilated children in either operating or pediatric intensive care unit (PICU) settings. ΔVpeak was reported in seventeen studies, and ΔIVC in eighteen studies. The pooled sensitivity and specificity for ΔVpeak were found to be 0.85 (95% confidence interval [CI] 0.77 – 0.91) and 0.83 (95% CI 0.77 – 0.88), respectively. Likewise, ΔIVC showed a pooled sensitivity and specificity of 0.85 (95% CI 0.73 – 0.92) and 0.77 (95% CI 0.63 – 0.88), respectively. The area under the receiver operating characteristic (ROC) curve for ΔVpeak and ΔIVC were both 0.88 (95% CI 0.85 – 0.90). However, it is important to note that significant heterogeneity in accuracy estimates was observed within the included studies.

Conclusion: Both ΔVpeak and ΔIVC are valuable predictors of fluid responsiveness in critically ill pediatric patients. However, ΔVpeak demonstrated slightly higher diagnostic accuracy compared to ΔIVC.

Keywords: pediatric patients, critical ill, fluid responsiveness, ultrasonography

CAR 33

Assessing the Risk of Cardiotoxicity in Childhood Cancer Patients Undergoing Cumulative-Dose Doxorubicin Chemotherapy: A Systematic Review and Meta-Analysis

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Background/ objective: Despite its common use in pediatric cancer therapy, the dose-related risk of Doxorubicin cardiotoxicity has not been clearly established. This systematic review aims to identify the Doxorubicin cumulative dose associated with cardiotoxicity in childhood cancers.

Methodology: This research paper uses the PRISMA 2020 checklist to review published articles on pediatric cancer patients treated with Doxorubicin. Electronic databases, Medline, Embase, Web of Science, and other databases, will be searched without restrictions on publication year or research location. Two reviewers select and appraise studies using specific tools. Two meta-analyses will assess the average cumulative dose and odds ratio at specific Doxorubicin doses related to cardiotoxicity. The choice of effect model depends on heterogeneity.

Result: Nineteen eligible articles (2,670 samples) were identified from a total of 720 papers obtained. Those observational studies involved diverse childhood cancers receiving Doxorubicin with cardiotoxicity effects. The pooled random-effect model for the average cumulative dose of Doxorubicin associated with cardiotoxicity was 293.4 mg/m^2 (95% CI: 264.5 – 325.5, $p<0.001$), with high heterogeneity ($I^2 = 72\%$, $p<0.01$). The fixed-effect model for the risk of cardiotoxicity based on cumulative doses yielded a pooled effect size (OR) of 2.85 (95% CI: 2.15 – 3.77, $p<0.001$), indicating higher odds at larger cumulative doses. The subgroup analysis based on cut-off cumulative doses consistently demonstrated a constant risk. Overall, the quality of the included papers was considered at a moderate level.

Conclusion: The systematic review provides valuable evidence on the average and cut-off cumulative doses associated with a higher risk of cardiotoxicity, highlighting the need for careful dosage considerations. However, it requires further improvement, particularly in applying stricter eligibility criteria.

Keywords: children, cancer, chemotherapy, doxorubicin, cardiotoxicity

CAR 50

Risk Factor Affecting The Function Of The Right Ventricle In Children With Shock

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Background : Shock contributes to child mortality and morbidity. Hemodynamic status plays a crucial role. Right ventricular dysfunction occurs in nearly fifty percent of septic patients and is associated with a threefold increased risk of death. This study aimed to identify risk factors influencing the function of the right ventricle in pediatric patients with shock, as measured by echocardiography.

Methods : This is an observational, analytic study of pediatric patients diagnosed with shock at the Pediatric Intensive Care Unit of Kandou Hospital aged 1 month to 18 years. Exclusion criteria included receiving more than 24 hours of fluid therapy, inotropic administration, dilated cardiomyopathy, patients with cyanotic and/or acyanotic CHD, and other congenital abnormalities.

Result : In this study, 33 patients participated. The nutritional status of the patients for at least 19 patients (57.6%). The median TAPSE was 1.63 (0.46 cm), and the majority of patients, 20 (60.6%). Age, gender, and nutritional status as risk factors for right ventricular function variation. Based on the bivariate analysis, there are variables that are candidates for multivariate ($p < 0.25$), namely age and TAPSE ($p = 0.008$) and nutritional status and TAPSE ($p = 0.059$). Multivariate analysis to control for confounding variables revealed that only age 88 months was significantly associated with right ventricular function, with Exp (B) = 0.129 and 95% CI = 0.026 – 0.650. Nutritional status is not significantly associated with right ventricular function as a risk factor.

Conclusion : The function of the right ventricle decreased in all patients with shock and malnutrition status. Boy have a greater decline in right ventricular function than girl.

Keyword : Right ventricle,Children, Shock

CAR 30

Maternal and fetal non Hereditary Risk Factors of Congenital Heart Disease: Can be Prevented?

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Background. Genetic and environmental factors are involved in aetiology of congenital heart disease (CHD). Risk assessment non-genetic risk factors is still imperative because can be prevented more easily. This knowledge play important rule in early diagnosis and improve management. We aimed to evaluate non hereditary factors which can be potentially prevented.

Methodology. This prospective study conducted from January 2023-July 2023 among pregnant mothers and fetals who were consulted to pediatric cardiology clinic. Data were provided from medical record during January 2013-December 2023. We collected clinical data, pregnancy status, maternal, fetal and neonate non hereditary factors. Cardiac anatomy was assessed based on American Institute of Ultrasound Medicine and American Society of Echocardiography. We analyzed correlation and risk factors with IBM SPSS version 20 using odds ratio (OR) and confident interval (CI) 95%. Significant was set as $p<0.05$.

Results. We recruited pregnant 240 mothers aged 18-45 years with gestation age 30-41weeks and 246 fetals. There were 237 (97,9%) singleton, 4 (1,65%) duplet gestations, 1 (0,4%) triplet. Transthoracic echocardiography confirmed 170 (70,7%) CHD; 100 (57.5%) were non cyanotic, 70 (41.2%) cyanotic and 76 (41.4 %) normal. We found non hereditary risk factors: 48 (19.5%) maternal and 67 fetal (27.6%). Risk factors for CHD: aged >35 years (OR 2.23 p=0.03), polyhydramnios (OR 1.48 p=0.02), IUGR (OR 3.8 p=0.02) and prematurity (OR 3.59 p=0.03)

Conclusion: Our findings add to previous evidence and show association of polyhydramnios, mother aged >35 years, IUGR, prematurity and CHD and these factors might be prevented to reduce CHD incidence.

Keyword: non hereditary factors, CHD, prevention

CAR 42

Microbiological Profile and Outcome of Pediatric Patients with Infective Endocarditis at Dr Soetomo General Hospital

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Background: Infective Endocarditis (IE) is an important cause of hospital admission in pediatric cardiology centers with morbidity and mortality. Streptococci are the most common cause of IE, while staphylococci infection can increase the risk of death in children. This study's aim is to describe Microbiological Profile and Outcome of Pediatric Patients with Infective Endocarditis at Dr Soetomo General Hospital.

Methodology: This is a descriptive study using medical records of patients diagnosed with Infective Endocarditis admitted in Dr Soetomo General Hospital from 2021-2022. Basic data of patients, microorganisms isolated from the blood culture, and outcome were collected. The data were analyzed using SPSS 25.

Results: There were 17 patients who had complete medical records. The mean age was 10.47± 4.4 years old. More than half of them was female (52.9%). The mean length of stay was 31.4 ± 13.5 days. Each patient has 3 sets of blood culture. There were 8 patients who had positive blood culture (47%) and 3 of them revealed more than one species of bacteria. From 51 blood culture, *Staphylococcus aureus* was the most common bacteria found (11.7%) followed by *Streptococcus mutans* (7.8%) and *Staphylococcus epidermidis* (5.8%). There were only 2 patient who died after treatment.

Conclusion: We found *Staphylococcus aureus* species to be the predominant pathogen for endocarditis overall followed by *Streptococcus mutans* and most of IE patients were alive.

Keywords: Infective Endocarditis, Microbiological, Outcome, *Staphylococcus, Streptococcus*

ITD-2-02

A Case of Pediatric Intestinal Taeniasis Presenting as Severe Anemia: Increasing Awareness of Neglected Tropical Diseases in Rural Areas

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Background/objective: Taeniasis is recognized as one of the twenty neglected tropical diseases affecting more than 1 billion people worldwide, even more burdening in developing countries including Indonesia. Although taeniasis was able to be detected and treated even in limited-resource settings, cases of intestinal taeniasis were left behind mostly undetected due to its non-pathognomonic features masquerading as other disease entities, leading to complications such as anemia and malnutrition in children.

Case: We present a case of an eight-years-old boy with a chief complaint of lightheadedness starting from a week before admission, accompanied with an inability to defecate 4 days prior and a history of passing tapeworm 6 months ago. The patient had pale in both of conjunctivas, tachycardia and the spleen enlargement. Laboratory examination revealed severe microcytic hypochromic anemia (Hb 4.0 g/dL) with no other blood cell lineage abnormalities. Peripheral blood smears were indicative of iron deficiency anemia. On microscopic faecal examination, Taenia solium sp. egg was found. The patient was treated with three-day course of 400 mg Albendazole and packed red cell transfusion, which led to improvement of clinical condition and no remission of symptoms upon follow-up examination.

Conclusion: Increased awareness of taenia infection in high-risk areas should be practiced. In limited resource settings, screening and treatment of intestinal taeniasis with severe manifestation is possible. Fecal wet mount microscopy and three-day course of albendazole were proven to be useful in low resource settings and is recommended to be conducted in patients with risk factors and clinical suspicion of intestinal taeniasis.
Keywords: Pediatric Taeniasis, Severe Anemia, NTD

ITD-2-10

Comparison of Clinical Characteristics and Outcome of Varicella in Children at dr. Soetomo Hospital

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Background/objective: Varicella, caused by the Varicella Zoster Virus (VZV), poses unique challenges when occurring in individuals with comorbidities. This study compares pediatric patients with concomitant oncology diseases without complications to pediatric patients with comorbidities other than oncology in order to better understand the clinical characteristics, length of stay and outcomes of varicella in these two groups of patients.

Methodology: A retrospective analysis of medical records from a designated period was conducted. Demographic data, length of stay, laboratories, and outcomes were compared between the two groups. The ethical clearance was issued by Health Research Ethical Committee of Dr. Soetomo Hospital.

Results: Two group with total subjects of 30 were compared in this study. The statistical analysis revealed no significant differences in terms of age, gender, duration of treatment, and laboratory results among varicella pediatric patients with non-complicated comorbid oncological diseases and non-oncology conditions. However, a significant difference emerged between the two groups regarding outcomes. The non-oncology comorbidity group exhibited a higher proportion of recovery compared to the oncology comorbidity group, with P value 0.024.

Conclusion: Varicella pediatric patient with non-oncological comorbid exhibited higher proportion of recovery compared to non-complicated comorbid oncological diseases.
Keywords: varicella, pediatric, clinical characteristics, outcome, comorbidities

ITD-2-04

Epidemiological and Clinical Manifestations Of Diphtheria In Children At Dr Soetomo Hospital

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Background : Diphtheria has been a significant problem in Indonesia since 2005. Until 2023, East Java has the highest number of cases in Indonesia. This study aims to present the epidemiological and clinical aspects of diphtheria children at Dr. Soetomo Hospital in Surabaya for the last five years.

Methods : This medical record-based study collected data from 2018 until 2023. The patients were 18 years old or below, hospitalized at Dr. Soetomo Hospital, and diagnosed as diphtheria cases by the microbiological culture or the decision of the National Expert Committee on Diphtheria in Indonesia. Epidemiological and clinical data were collected from each patient.

Result : There were 46 patients hospitalized in the 2018 - 2023 period, and 32 (69.6%) were male. The predominant age was four years (23.9%). The median duration of hospitalization was 11 days. Most patients (54.3%) came from outside Surabaya. Only 17.4% were vaccinated for diphtheria. Most patients had swallowing pain and or sore throat as the main complaint. All cases were tonsillar pharyngeal diphtheria. The median of hemoglobin, hematocrit, leukocyte, and platelet count was 11.65, 34.85, 11,310, and 233,500, respectively.

Conclusion : Most children with diphtheria in Dr. Soetomo Hospital were male, had incomplete immunization history, had swallowing pain and or sore throat as the main complaint, and came from other city than Surabaya.

Keywords : diphtheria, epidemiology, clinical manifestations, children

ITD 81

Cytomegalovirus Pneumonitis in an Immunocompetent Child: A Case Report

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Background: Cytomegalovirus (CMV) infection can give rise to rare manifestations, such as pneumonitis, which are associated with poor outcomes. Although commonly observed in immunocompromised patients, this case highlights the infrequent occurrence of pneumonitis due to CMV infection in an immunocompetent individual.

Case: A 7-year-old boy was referred to Cipto Mangunkusumo Hospital, with a history of persistently high fever for two weeks, along with a persistent cough, shortness of breath, papular rashes, and mild jaundice. He had recently been exposed to a public swimming pool, raising suspicion of Legionella infection. During hospitalization, his dyspnea worsened, and he was diagnosed with severe acute respiratory distress syndrome (PF ratio 104). Laboratory results indicated normal immunoglobulin, elevated liver enzymes, cholestasis, and elevated infection markers (procalcitonin, C-reactive protein), without thrombocytopenia or leukopenia. All hepatitis markers tested negative. Chest X-ray revealed extensive patchy infiltrates. Staphylococcus saprophyticus was isolated from the sputum, and screening for legionella, blood culture, and respiratory viral panel were negative. Despite various treatments, including antibiotics, antifungals, immunoglobulins, and steroids, the pneumonia persisted. Further investigation showed positive results for IgG, IgM anti-CMV, and qualitative urine CMV PCR. Subsequently, the patient was diagnosed with CMV infection. Unfortunately, the patient's condition deteriorated, and definitive CMV therapy could not be administered in time, resulting in the patient's demise.

Conclusion: This case underscores the importance of considering CMV pneumonitis as a potential cause of pneumonia, even in immunocompetent individuals. Early detection and treatment of CMV infection are pivotal to preventing severe complications and enhancing outcomes in such cases.

Keywords: CMV pneumonitis, immunocompetent, ARDS, children.

ITD 46

Epidemiological Profiles And Risk Factors of Candidemia Among Neonates In Dr Moewardi Hospital

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Background : Candidemia causes significant morbidity and mortality in neonates. This study determined the epidemiology and analyzed the risk factors of candidemia among neonates treated in Dr Moewardi Hospital, Surakarta.

Methodology : A Cross-sectional study was conducted using the medical records of neonates with suspected candidemia treated in the 2nd dan 3rd levels of neonatal care in Dr Moewardi Teaching Hospital from January 2020 to December 2022 who also had blood culture examination. Data on Candida species, antifungal susceptibility, sex, place of treatment, duration of treatment, use of antibiotics, use of invasive catheter, and surgery were extracted. Chi square test and multivariate analysis were used to determine the risk factors of candidemia and $p < 0.05$ was set as significant.

Results : There were 90 subjects, 53 were positive for Candida spp, and 37 had no growth. The predominant subjects were male (54%; 29/53). Candida parapsilosis is the most common candida species for three consecutive years (73.5%; 39/53). Other species are C.guillermondii (13.2%;7/53), C.albicans (11.3%;6/53), and C.haemulonii (1.8%;1/53). Fluconazole is the most effective antifungal (92.5%), followed by voriconazole, amphotericin B, flucytosine, caspofungin, and micafungin. Chi square test obtained a significant relationship between candidemia and the place of treatment ($p=0.001$), length of treatment >14 days ($p=0.003$), antibiotic use >7 days ($p=0.026$), and the use of invasive catheter ($p=0.001$). In the multivariate analysis, the place of treatment was factor associated with candidemia ($p=0.002$).

Conclusion : *Candida parapsilosis* is the most common Candida species and fluconazole has the greatest effectiveness against Candida spp. Place of treatment is associated with candidemia in neonates.

Keyword : Candidemia, neonates, risk factors

ITD 66

Bidirectional Relation between Inflammation and Coagulation in Dengue Infection Associated with Delay Recovery: A Case Series

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Background : Dengue is a dynamic-disease. Most patients recover after self-limited clinical-course, some progress to longer clinical-manifestation/complication. Studies showed association between D-dimer and inflammatory-parameters in Dengue-infection. Cross-talk between two-systems, inflammation may lead to activation-of-coagulation, but coagulation also affects inflammatory-activity. Three-cases were taken during SARS-CoV-2-pandemic year 2022.

Objective : To better-understanding-events of inflammatory and coagulation-marker in DENV-infection that correlates with delay-recovery.

Case : We report three-children with dengue-fever. All of them had no-plasma-leakage from dengue-infection, that was detected by NS-1 or dengue-IgM. The possibility of SARS-CoV-2-co-infection was excluded by negative-PCR-examination.
Case#1 14-year-old-girl admitted with 3-days of high-fever and nausea. Fever lasted 5-days, but nausea stayed longer. During recovery-phase was detected high-aminotransferases, high inflammation and coagulation-marker, CRP(33.5), D-dimer(4596). Blood-count-monitoring showed longer-leukopenia (WBC-4000/uL on 7th-day-of-fever).
Case#2 2.5-year-old-boy revealed longer-fever 8-days before-admission, referred from other-hospital. Temperature was 40C. Physical-examination showed mucosal-hyperemia and sinus-tenderness. During recovery-phase was detected high-CRP(71.5) also D-dimer(1080). Blood and urine-culture-result was sterile.
Case#3 13.9-year-old-boy referred to hospital after 6-days of high-fever. Fever lasted 11-days. Blood-count-monitoring showed normal-leucocyte, but longer-thrombocytopenia(120.000), high CRP(73), D-dimer(8100) on 9th-day-of-fever.
All three-cases were resolved entirely with normal-CRP and D-dimer in 1-2 weeks, without prolonged-clinical-manifestation in dengue.

Conclusion : This study can alert us if we discover delay-recovery or unusual-manifestations in dengue, there maybe abnormal inflammation or coagulation markers. Here we should consider the proper-management in dengue-infection.

Keywords : dengue-infection, inflammation-coagulation marker

Endo 22

A Bibliometric Analysis of Global Publication and Trends in Pediatric Type 1 Diabetes Research over the Last 5 Years

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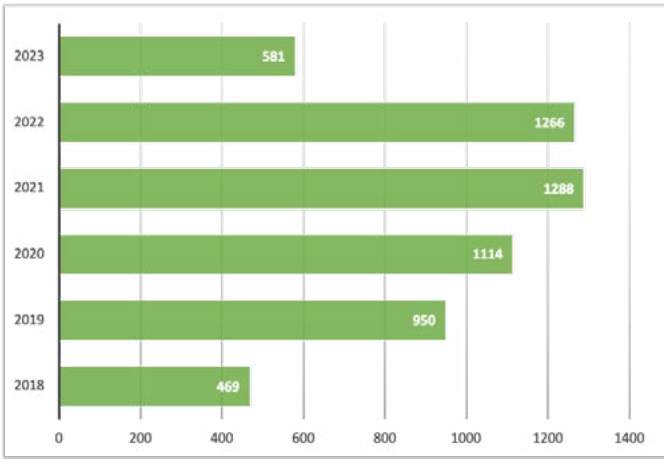
Background and Aim : Worldwide estimates of numbers of children with type 1 diabetes mellitus (T1DM) continue to increase. This paper provide initial direction to scholars using bibliometric analysis by identify the global trends and publication activity related to pediatric T1DM research over the last five years.

Methods : Publications on pediatric T1DM indexed in PubMed database were examined (2018-2023). We identified top number of publications by year, journals publishing, and type of document in the pediatric T1DM studies as a reference for extracting search results. The collected data managed by Ms. Excel and VOSViewer. Then, the results were analyzed by bibliometric.

Results : A total of 4779 documents were found in the PubMed database accessed on July 5th, 2023. There was a significant increase in the number of publications on pediatric T1DM from 2018 to 2022. It shows that the most publications were in 2021 with 1288 publications. The most journal that published pediatric type 1 diabetes research is pediatric diabetes (41%), while the most publications based on document type are review articles.

Conclusion : The bibliometric analysis suggest that there was a significant research activity in the field of pediatric T1DM during the study period. The contributors of authors to published literature indicate the healthy pattern of progress in this field. This review certainly can provide a reference point for further research related to the pediatric T1DM by understanding the current state of pediatric T1DM research and identifying emerging trends to reduce the burden of pediatric with T1DM on global health.

Keyword: Pediatric, Type 1 Diabetes, VOSViewer, Bibliometric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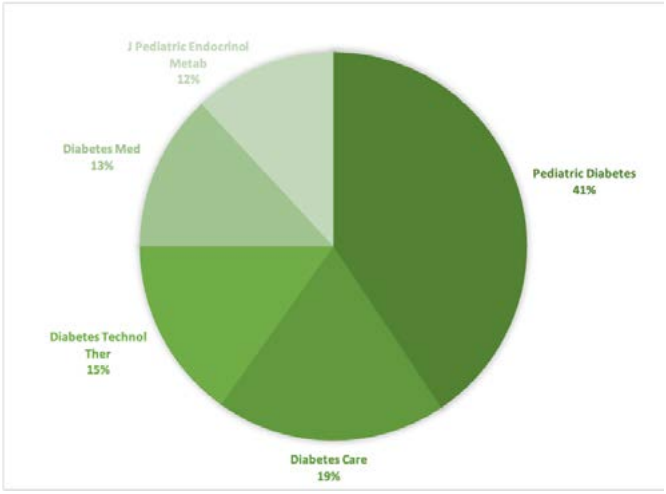
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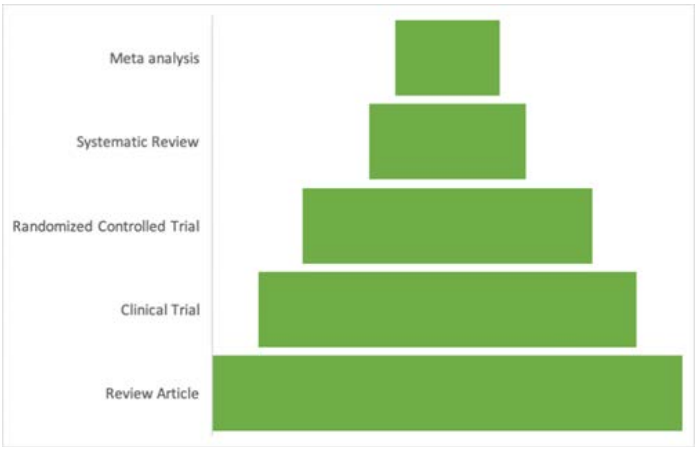
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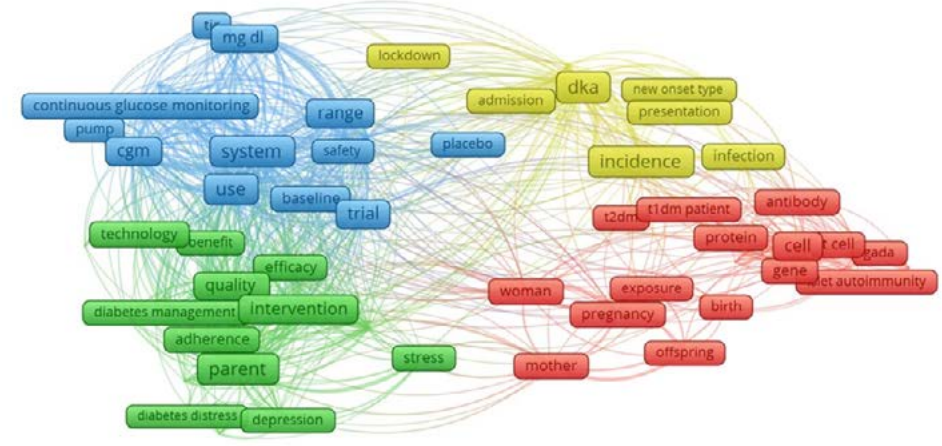
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Endo 17

Parental Knowledge of Endocrine Patients With Pekaq (Pediatric Endocrine Knowledge Assessment Questionnaire)

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Background: Parental knowledge of the endocrine patient is important for the success of therapy, because it require long-term treatment. One of the validated measures is PEKAQ (*Pediatric Endocrine Knowledge Assessment Questionnaire).*

Objective: Knowing the increase in parent's knowledge of endocrine patients at Dr. Moewardi Hospital based on PEKAQ questionnaire before and after the receiving education about their children's illness.

Methods: Quantitative experimental study using pretest posttest one group design was conducted on 37 parents of endocrine patients visiting endocrine outpatient clinic of Dr. Moewardi Surakarta Hospital in June 2023. The data were collected using PEKAQ questionnaire. Descriptive analysis of study data is presented in frequency distribution and mean ± SD. The statistical analyses used paired t test for normal distribution data, and wilcoxon rank test for non-normal distribution data. The normality test used shapiro wilk, and meaning limit (α) was set at 5%.

Results: Most of endocrine patients are female (75.7%), aged over 10 years old (56.8%), and most diagnosed with type 1 DM (40.5%). The mean scores of PEKAQ questionnaire for all patients pre and post treatment were 10.33 ± 3.40 and 13.61 ± 1.78, respectively with an increase of knowledge 31,7% ($p<0.001$). Meanwhile patient with type 1 DM the mean scores of PEKAQ questionnaire pre and post treatment were 11.47 ± 3.02 and 14.00 ± 1.60, with an increase of knowledge of 22.1% ($p<0.001$).

Conclusions: There is a significant increase in parent's knowledge of pediatric endocrine patients in Dr. Moewardi Hospital after receiving education on their children's illness.

Keywords : PEKAQ, children, knowledge, endocrine

Endo 07

Menstrual Patterns among Indonesian Adolescent Girls in Islamic Boarding School

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Background: Understanding menstrual patterns and their abnormalities during adolescence can be indicators of adolescent health into adulthood. This study aimed to assess the menstrual patterns and common menstrual abnormalities among adolescent girls in Islamic boarding school.

Methods: This descriptive cross-sectional study was conducted at Islamic Boarding School in Sragen on adolescent girls aged 13-14 years from July to August 2023. Girls who had experienced menstruation and had at least three menstrual cycles were included. Girls who took hormonal drugs or had chronic diseases were excluded. Subjects filled out questionnaires on menstrual patterns and ethnicity. Subjects were measured for anthropometry and hemoglobin levels. Descriptive statistics, Chi-square, Fisher, and One-way Anova tests were used for data analysis.

Results: There were 84 of 97 girls met the criteria. Mean age at menarche was 11.3 (SD 1.0) years. Mean menstrual cycle was 43.2 (SD 27.7) days. Abnormal menstrual cycle was found in 25 (29.8%) subjects. Prolonged menstrual bleeding occurred in 38 (45,2%) subjects and heavy menstrual bleeding was reported in 1 (1.2%) subject with normal bleeding length. Both indicated there was menorrhagia in 39 (46.4%) subjects. There were no significant associations between abnormal menstrual cycle and factors such as age, ethnicity, Hb levels, age at menarche, BMI, z-score, anemia, and nutritional status ($p>0.05$).

Conclusion: Abnormal menstrual cycle and menorrhagia are menstrual pattern abnormalities that often occur in Indonesian adolescents. Menstrual cycle has no significant association with factors.

Keywords: Adolescent, Menstrual Pattern, Menstrual Cycle, Menorrhagia, Boarding School

Table 1. Characteristic of Subject

Characteristics	(N=84)
Age, years	
Mean (SD)	13.5 (0.35)
Median (range)	13.5 (12.8 – 14.3)
Ethnicity, n (%)	
Javanese	73 (86.9)
Sundanese	3 (3.6)
Malay	3 (3.6)
Others	5 (6.0)
Nutritional status, n (%)	
Thinness	0 (0)
Normal	53 (63.1)
Overweight	21 (25)
Obesity	10 (11.9)
BMI, kg/m^2	
Mean (SD)	21.56 (0.37)
Median (range)	21.23 (15.11 – 32.89)
BMI for age, Z-scores	
Mean (SD)	0.60 (1.08)
Median (range)	0.69 (-1.97 – 2.94)
Hemoglobin level, g/dl	
Mean (SD)	11.3 (1.19)
Median (range)	11.4 (8.2 – 14.3)
Anemia category, n (%)	
Non-anemic (≥12 g/dl)	24 (28.6)
Anemic (<12)	60 (71.4)
Age at menarche, years	
Mean (SD)	11.3 (1.0)
Median (range)	11.3 (8.6 – 13.5)

Table 2. Menstrual Pattern

	(N=84)
Menstrual cycle category, n (%)	
Normal (21-45 days)	59 (70.2)
Abnormal	25 (29.8)
Menstrual cycle length, days	
Mean (SD)	43.2 (27.7)
Shortest	19
Longest	188
Menstrual bleeding length (days), n (%)	
1 to 3	0 (0)
4 to 5	2 (2.4)
6 to 7	44 (52.4)
8 to 9	25 (29.8)
10 to 11	9 (10.7)
12 to 13	2 (2.4)
≥ 14	2 (2.4)
Menstrual bleeding length category, n (%)	
Normal (≤ 7 days)	46 (54.8)
Prolonged (> 7 days)	38 (45.2)
Change of pads in days category, n (%)	
light (<3 pads)	1 (1.2)
normal (3-6 pads)	82 (97.6)
heavy (>6 pads)	1 (1.2)

Table 3. Factors associated with menstrual cycle category in adolescents

	Normal	Abnormal	Total	OR (95% CI)	P value
Ethnicity, n (%)				2.20 (0.60 – 8.05)	0.290*
Javanese	53 (72.6)	20 (27.4)	73 (100)		
Non-Javanese	6 (54.5)	5 (45.5)	11 (100)		
Nutritional status, n (%)				0.43 (0.61 – 1.04)	0.111**
Normal	34 (64.2)	19 (35.8)	53 (100)		
Overweight-obese	18 (85.7)	2 (9.5)	31 (100)		
Anemia category, n (%)				1.39 (0.48 – 4.06)	0.546**
Non-anemic	18 (75.0)	6 (25.0)	24 (100)		
Anemic	41 (75.9)	19 (17.2)	60 (100)		
Mean age, years (SD)	13.56 (0.33)	13.53 (0.42)			0.788***
Mean age at menarche, years (SD)	11.15 (1.01)	11.52 (0.98)			0.127***
Mean BMI, kg/m^2 (SD)	21.77 (3.40)	21.05 (4.48)			0.428***
Mean BMI for age, Z-scores (SD)	0.69 (1.02)	0.40 (1.20)			0.260***
Mean Hb level, g/dl (SD)	11.32 (1.18)	11.15 (1.25)			0.562***

*Fisher test
**Chi-square test
***One Way Anova test

Endo 15

Evaluation of Neonatal Hypoglycemia in Cipto Mangunkusumo Hospital: Reveal the Causes

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Background: Hypoglycemia represents one of the most frequent metabolic disturbances in neonates, associated with increased morbidity and mortality, especially if left untreated or diagnosed after the establishment of brain damage. The aim of this study was to evaluate associated risk factors and possible causes of neonatal hypoglycemia.

Methodology: The records of infants born between July, 2022 to July, 2023 at Cipto Mangunkusumo Hospital that have been consulted to endocrinology division with initial diagnosis of neonatal hypoglycemia with blood glucose levels below 70 gr/dL and persists for 48 hours.

Results: There were a total of 15 newborns with hypoglycemia who were consulted to the endocrinology division from July, 2022 to July, 2023. The mean age at diagnosis was 48 hours. Patient gender; 9 baby boys (60%) and 6 baby girls (40%). The median insulin level during critical sampling: 7.1 μU/ml (0.5-32.4 μU/ml), while for β-hydroxybutyrate: 0.2 mmol/L (0.1-0.2 mmol/L), lactate 2.1 mmol/L (1.4-6.1 mmol/L) and ammonia 100.2 μmol/L (58.4-264.5 μmol/L). The most frequent risk factors prompting blood glucose measurement were prematurity consisting of: Late preterm (87%) and very preterm (13%). The other factors are sepsis (60%), respiratory distress syndrome (33%) and newborn from diabetic mother (7%). The final diagnosis consists of: Perinatal stress induced hyperinsulinemia (transient hypoglycemia) (67%) and congenital hyperinsulinemia (persistent hypoglycemia) (13%).

Conclusion: Neonatal hypoglycemia is a dangerous phase. The strongest risk factor was prematurity. It is important to detect high risk infants for hypoglycemia, timely identification and prompt initiation of treatment in optimizing the outcomes. Long term follow-up is necessary to evaluate the consequences of persistent and transient neonatal hypoglycemia.

Keywords: Neonatal hypoglycemia, prematurity, sepsis

Endo 10

Late Onset Hypocalcemia, Hypovitaminosis D, and Hypoparathyroidism in Neonates from Mother with Hipovitaminosis D

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Objective : Hypocalcemia is a life threatening consequences in neonates, lead to osteoporosis, neurological and developmental disorder. The vitamin D level in pregnant women has an impact vitamin D and calcium level of neonates after birth

Case : A 7 day-old boy neonate got multiple episode of multifocal tonic – clonic convulsions, 10 times/day, lasting for 50 seconds, without fever and hypoglycemia. The baby was born by cesarean section, birth weight of 4,9 kg, body length of 52 cm, got vitamin K injection. The physical examination revealed no abnormality. Serum calcium 5.2 mg/dl (8,1-10,4 mg/dl), urinary calcium 14.3 mg/24 hours (100-320 mg/24 hours), calcium ion 0,17 mmol/L (1,17-1,3 mmol/L), vitamin D level 21,4 ng/ml (30-100 ng/ml), serum magnesium 1,7 mg/dl (1,5-2,5 mg/dl), phosphorus 7 mg/dl (3-7,5 mg/dl), parathyroid hormone 11,2 pg/ml (12 – 72 pg/ml). He got parenteral bolus of 10% calcium gluconate at a dose of 2 ml/kg, followed by 8 ml/kg for 72 hours. The lumbar puncture and head ultrasonography were within normal limit. Mother's vitamin D level 12,7 ng/ml and calcium ion 1,17 mmol/L. The patient diagnosed was late onset of hypocalcemia due to hypovitaminosis D and hypoparathyroidism with macrosomia. The patient got vitamin D 1x2000 iu and and calcium lactate 3x100 mg. Now, the patient had well growth and development.

Conclusion : Late onset hypocalcemia in neonate caused by hypoparathyroid, hypomagnesemia, hyperphosphatemia, hypovitaminosis D. Maternal vitamin D levels should be concern during pregnancy to reduce risk of hypocalcemia and hypovitaminosis D in neonate.

Keywords : neonatal seizure, hypocalcemia, hypovitaminosis D, hypoparathyroidism

Endo 19

Phosphopenic Rickets;
Our Experience in Pediatric Endocrinology, Cipto Mangunkusumo Hospital, Jakarta

Wella Yurisa, Ghaisani Fadiana, Bambang Tridjaja, Frida Soesanti

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Background/objective: Rickets refers to deficient mineralization of the growth plate cartilage. Rickets is classically divided into calcipenic and phosphopenic rickets. The aim of this study was to describe our experience with phosphopenic rickets in Cipto Mangunkusumo Hospital.

Methodology: This is a descriptive study using data from medical records.

Results: There were 10 cases (7 boys, 3 girls) of phosphopenic rickets from January 2021 to June 2023. Age at diagnosis ranged from 2 to 18 years. The median duration of illness was 18 (2-49) months. Patients presented with bow-legs or knock-knees with or without significant bone pain, and disproportionate short stature.. All patients showed low phosphate level combined with high alkaline phosphatase. Calcium and vit-D levels varied. The result of initial bone panel evaluation was (values in range); normal serum calcium 8.6-9.7 mg/dL; normal ionized calcium 1.06-1.35 mmol/L; low serum phosphate 1.9-2.7 mg/dL; serum magnesium 1.66-2.64 mg/dL; high alkaline phosphatase 388-1246 U/L; variable 25(OH)D 10.8-43.8 ng/ml. Tubular maximum reabsorption of phosphate to glomerular filtration rate (TmP/GFR) as renal phosphate wasting was performed in 4 patients with low results in 2 patients and normal in others. Parathyroid hormone was only available for one patient due to financial problems. Skeletal survey was reported by pediatric radiologist who identified radiological features of rickets. One patient with remarkable family history (mother) confirmed to have mutation in the PHEX (hemizygous) gene. Diagnosis of phosphopenic rickets was made based on clinical features, radiographic and laboratory findings (low serum phosphate, high ALP, normal calcium and 25-OHD level).

Three patients immediately received treatment include active vitamin D (20-30 ng/kg/day) and phosphate (20-60 mg/kg daily) at the initial visit. The others received vitamin D deficiency therapy for 5 (2-12) months first. Three patients were lost to follow up, 3 patients had improvement in bone pain, and 4 patients experienced pain free. Only one patient had normal serum phosphate at the end of observation with 49 month duration of illness.

Conclusion: There is considerable overlap between symptoms and signs of phosphopenic and calcipenic rickets. Accurate diagnosis and monitoring leads to appropriate management of rickets.

Keywords: rickets, phosphopenic rickets, hypophosphatemia

AI 38

Diagnostic performance of total score ≥10 and ≥13 EULAR/ACR 2019 classification criteria in childhood-onset SLE

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Department of Paediatric, Faculty of Medicine Sriwijaya University, Mohammad Hoesin Hospital, Palembang, Indonesia

Objective: The EULAR/ACR 2019 classification criteria has been widely used to assist in the diagnosis of SLE. The sensitivity and specificity of this classification criteria has been widely reported in adult population. The classification criteria with a total score ≥10 turned out to be many non-SLE diseases. Through this research, the diagnostic performance of the EULAR/ACR 2019 total score ≥13 will be compared the initial proposed ≥10.

Methods: This study is a diagnostic research with a cross-sectional design using secondary data to compare the diagnostic performance of the EULAR/ACR 2019 classification criteria with a total score ≥10 and ≥13 in identifying SLE. The diagnostic performance assesses the sensitivity and specificity and also calculates the diagnostic performance of the total score using the Youden index.

Results: This study consisted of 86 cases of SLE (mean age at diagnosis 12.73±2.97 years), female to male ratio was 11:1. There were 44 subject non-SLE (mean age at diagnosis 8.86±4.78 years). The sensitivity of EULAR/ACR 2019 total score ≥10 was 100% and ≥13 97.67%. The specificity total score ≥10 and ≥13 were 68% and 79.55%. The positive predictive total score ≥10 was 86% and negative predictive value was 83%. The Youden index of EULAR/ACR 2019 total score ≥10 and ≥13 were 0.68 and 0.77, respectively. Area under curve (AUC) between total score ≥10 and ≥13 was 84.1% vs 95.2%.

Conclusion: The adoption of the EULAR/ACR 2019 total score ≥13 could further improve the diagnostic performance of the EULAR/ACR 2019 criteria in childhood-onset SLE.

Keywords: childhood, classification criteria, EULAR/ACR 2019, total score, and SLE.

AI-2-01

The Correlation between COVID 19 Exposure and *Systemic Lupus Erythematosus* Activity in Pediatric Patients at DR. M DJAMIL PADANG Hospital

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Background : Systemic lupus erythematosus (SLE) is a chronic systemic autoimmune disease with high heterogeneity. Although the etiology and pathogenesis of SLE have not been fully explained, impairment of immune tolerance caused by environmental stimulation and genetic factors are widely reported to play a core role in SLE. During and after the Covid 19 pandemic, there was an increase in the incidence of new SLE compared to previous periods. The increase in SLE incidence is thought to be related to dysregulation of the immune system and the development of autoimmune phenomena caused by Covid 19 infection.

Methods : This study used a retrospective cohort design with the Chi Square test. Data were obtained from medical record data with the inclusion criteria of all pediatric patients newly diagnosed with SLE who were treated at RSUP DR. M. Djamil Padang from January 2020-June 2023. The sampling technique used nonprobability sampling by consecutive sampling. Data analysis used bivariate methods with a significance level of P <0,05.

Results : There were 40 children newly diagnosed with SLE since January 2020, of which 97.5% were girls and 2.5% were boys. The age range of 10-14 years was 37.5% and 14-18 years was 62.5%. All children were diagnosed with 82.5% having ANA IF test results and 17.5% having Ana Profile/Anti dsDNA test results. The children have been tested for Covid 19 with the results of 7.5% Covid positive based on PCR swab results, and 17.5% positive for SARS COV-2 IgG Antibody. All children were assessed for their SLE activity with the SLEDAI score, there were 22.5% of children in the LDA category, while 77.5% were in the HDA category. Based on bivariate analysis, there was no relationship between exposure to covid 19 and SLE activity with a P value of 0.567 (p>0.05), between gender and SLE activity with a P value of 0.585 (p>0.05), and between age of diagnosis and SLE activity with a P value of 0.527 (p>0.05).

Conclusion : This study shows that there is no association between Covid 19 exposure and SLE activity in pediatric patients newly diagnosed with SLE from January 2020-June 2023 at RSUP M. Djamil Padang. More extensive sample data is needed, and exposure testing with SARS-COV 2 antibodies for all samples will be more specific in showing a history of Covid 19 exposure.

Keyword : SLE, Covid 19 exposure, SLEDAI

AI 25

Correlation of Juvenile Systemic Lupus Erythematosus (Non-Nephritic) Disease Activity Level and Prognostic Nutritional Index

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Background: Prognostic Nutritional Index (PNI) is widely utilized as a marker to reflect nutritional status in patients. The development of autoimmunity, chronic inflammation, and poor prognosis for autoimmune disease were associated to nutritional status. This study aims to determine the relationship between PNI and Juvenile Systemic Lupus Erythematosus (JSLE) disease activity level (SLEDAI scores).

Methodology: This is an analytic observational retrospective study. Medical record data of JSLE patients were collected from the 2018-2023 (SLEDAI scores, albumin levels, and lymphocyte levels). The severity of disease activity was based on SLEDAI scores, divided into mild (0-5), moderate (6-12), severe (>12). Nutritional Status of patient was assessed by PNI. Spearman Correlation Analysis was used to determine the correlation between JSLE disease activity and PNI.

Results: A total of 57 patients met the inclusion and exclusion criteria consisting of 6 males and 51 females. The youngest is 4 years old and the oldest is 17 years (12.7 ± 2.8). The severity of subjects' disease activity in this study were: 35 mild, 18 moderate, 4 severe. The minimum value of PNI on the subjects is 29.2 and the maximum was 67.9 (44.8 ± 7.8). JSLE disease activity level and PNI were opposite direction correlated and statistically significant (r= 0.3; p=0.007).

Conclusion: JSLE disease activity level and PNI are correlated. Larger sample is needed to be able to provide better picture of the correlation of the two variables.

Keywords: children, JSLE, nutritional status, PNI, SLEDAI score

AI 14

Hematopoietic Stem Cell Transplantation in Severe Combined Immunodeficiency Patient: A 5 Year Follow Up

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Objective: Severe combined immunodeficiency (SCID) is an inborn error immunity (IEI) that should be treated definitively with hematopoietic stem cell transplantation (HSCT) to achieve immune reconstitution. However, survivors are at risk for developing late complications because of the variable durability of high-quality immune function and comorbidities due to infections. Here we present a 5-year follow-up of an SCID patient after receiving bone marrow transplantation.

Case: A 4-month-old boy presenting with recurrent oral candidiasis and BCG lymphadenitis. His male sibling died in early childhood due to severe infection. He was diagnosed as T-B+NK- SCID based on summary of clinical and laboratory presentation (leukopenia, lymphopenia, hypogammaglobulinemia, absent T and NK cell, and mutation in IL2RG gene). Patient received haploidentical HSCT with his father as the donor at age of 6 months. After HSCT, he had recurrent graft versus host disease (GVHD) and severe infection problems including viral encephalitis. Intensive immunosuppressives therapy along with antimicrobe, and monthly intravenous immunoglobulin (IVIG) were given in the first 12 months after HSCT. Full immune reconstitution achieved at the 13 months after HSCT. Currently, he has normal growth and development, complete vaccination according to his age, and free of any medication including IVIG.

Conclusion: In post HSCT SCID patients, intensive monitoring including clinical, and laboratory is mandatory needed.

Keywords: SCID, IEI, HSCT

AI 34

The Correlation of Allergic Disease Risk with The Incidence of Childhood Acute Lymphoblastic Leukemia: A Systematic Review and Meta-Analysis

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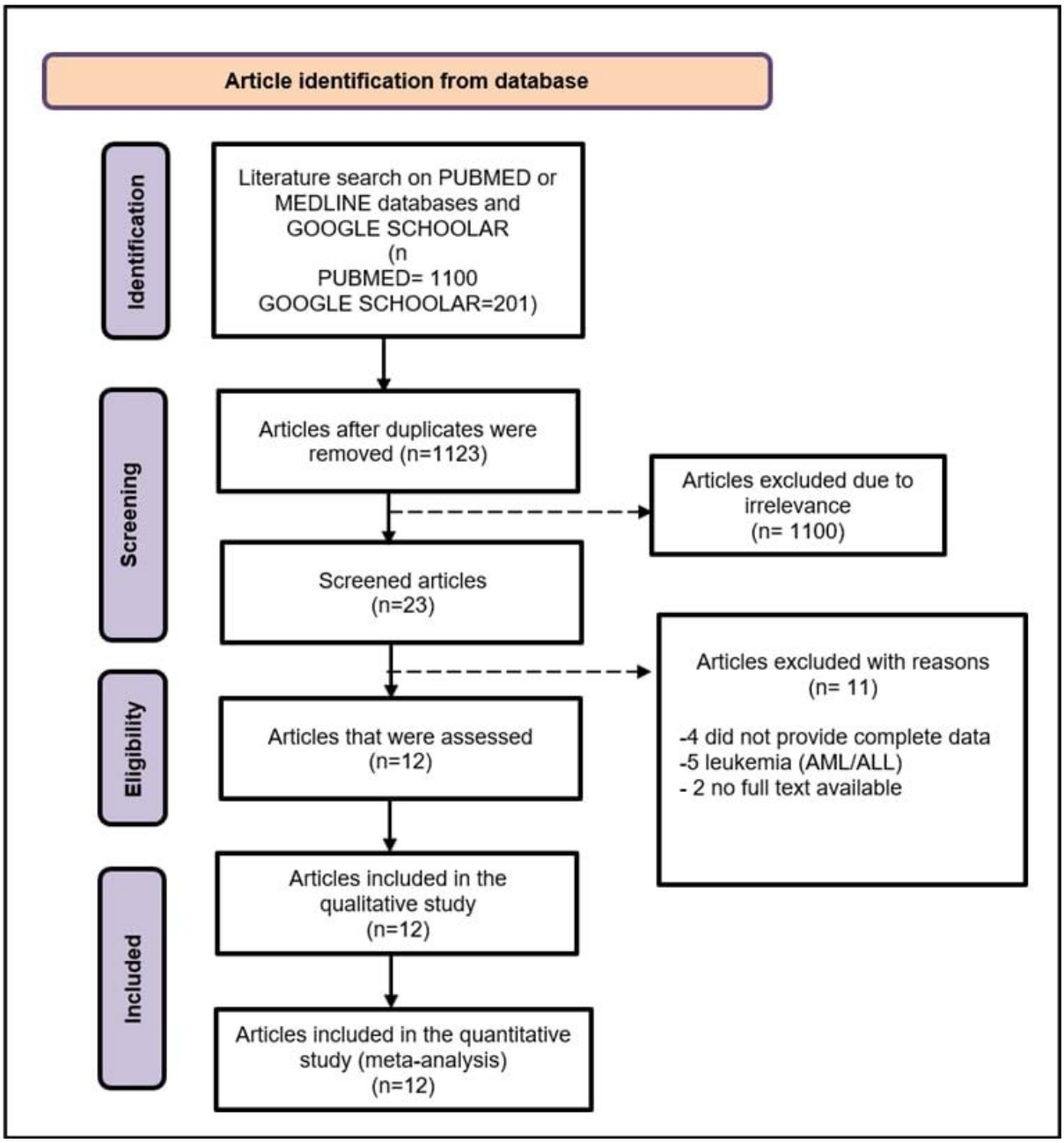
Objective: Allergic diseases refers to clinical forms triggered by immunologic mechanisms which are possibly protective against cancer development, particularly acute lymphoblastic leukemia. While several studies have shown a protective effect of allergy against acute lymphoblastic leukemia, others have not supported these results. This study would like to determine the correlation of allergic disease risk with the incidence of acute lymphoblastic leukemia in children.

Method: A qualitative assessment and meta-analysis of articles conducted from 1999-2022 through PubMed, Cochrane Library, Medline, Google Scholar, and EBSCO, and national journals were searched with basic keywords. Risk of bias was assessed for included studies.

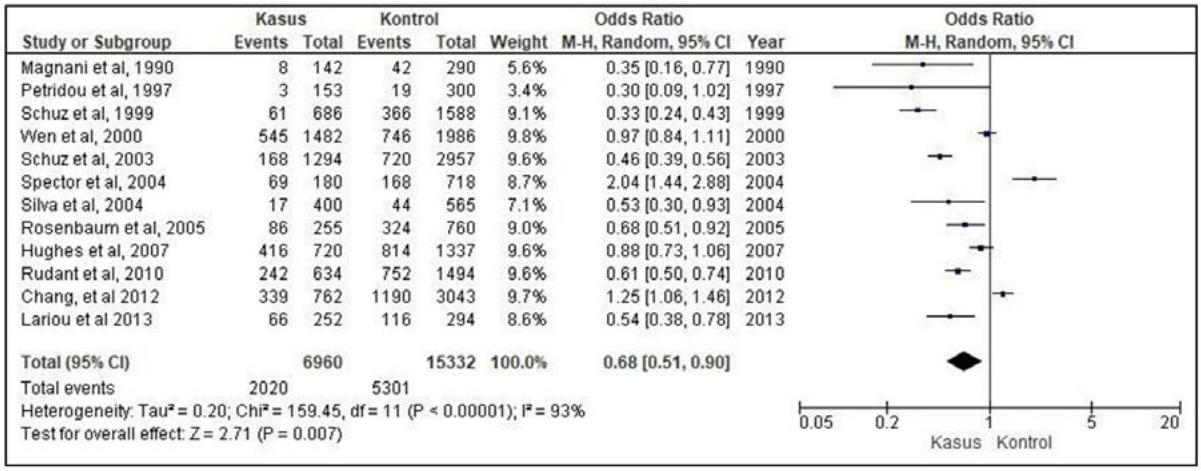
Results: Of the 12 articles concerning the risk association of ALL with allergic diseases which were included, a protective risk between allergy and pediatric acute lymphoblastic leukemia was found with OR 0.68 (95%IK 0.51:0.90) and p value 0.007. Results in favor of this protective risk were obtained in cases of atopic dermatitis, OR 0.66 (95%IK 0.59:0.74) and p value <0.00001 and allergic rhinitis, OR 0.59 (95%IK 0.36:0.97) and p value 0.04. Results unfavorable to protective risk were found in the case of asthma, OR 0.81 (95%IK 0.63:1.03) and p value 0.09 and urticaria, OR 0.44 (95%IK 0.10:1.86) and p value 0.26.

Conclusion: There is an association of protective risk between allergy and Acute Lymphoblastic Leukemia in children on a cumulative basis. Results supporting this protective risk were obtained in cases of atopic dermatitis and allergic rhinitis. Results not supporting the protective risk were obtained in cases of asthma and hives.

Keywords: acute lymphoblastic leukemia, allergic rhinitis, allergy, atopic dermatitis, children



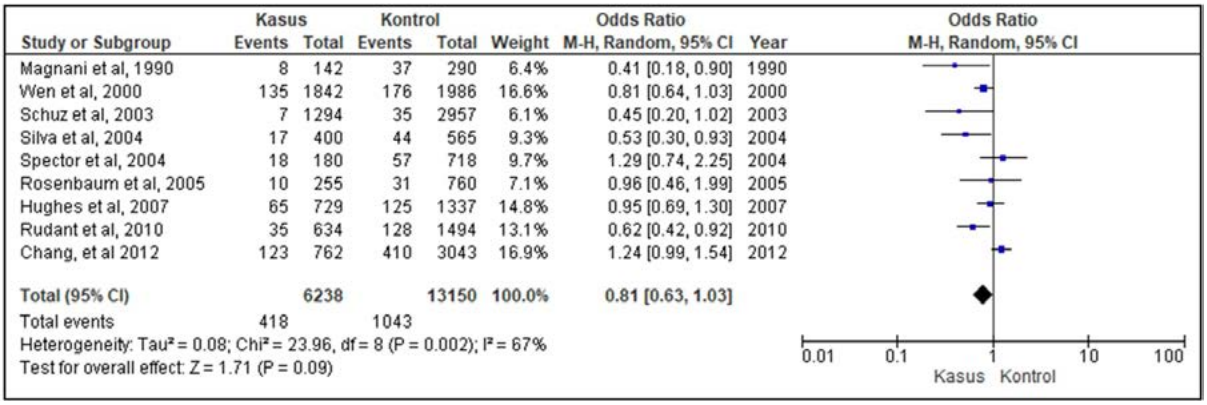
The correlation of allergy incidence towards Acute Lymphoblastic Leukemia



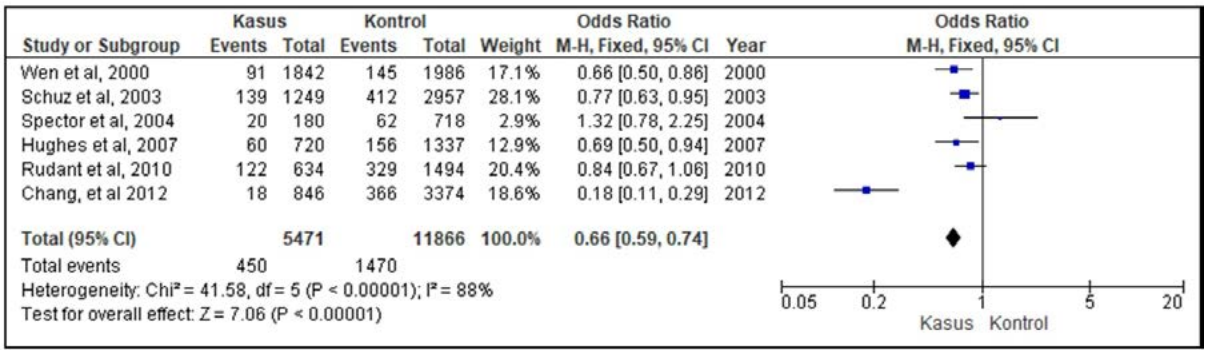
Study or Subgroup	Kasus Events	Kasus Total	Kontrol Events	Kontrol Total	Weight	Odds Ratio M-H, Random, 95% CI	Year
Magnani et al, 1990	8	142	42	290	5.6%	0.35 [0.16, 0.77]	1990
Petridou et al, 1997	3	153	19	300	3.4%	0.30 [0.09, 1.02]	1997
Schuz et al, 1999	61	686	366	1588	9.1%	0.33 [0.24, 0.43]	1999
Wen et al, 2000	545	1482	746	1986	9.8%	0.97 [0.84, 1.11]	2000
Schuz et al, 2003	168	1294	720	2957	9.6%	0.46 [0.39, 0.56]	2003
Spector et al, 2004	69	180	168	718	8.7%	2.04 [1.44, 2.88]	2004
Silva et al, 2004	17	400	44	565	7.1%	0.53 [0.30, 0.93]	2004
Rosenbaum et al, 2005	86	255	324	760	9.0%	0.68 [0.51, 0.92]	2005
Hughes et al, 2007	416	720	814	1337	9.6%	0.88 [0.73, 1.06]	2007
Rudant et al, 2010	242	634	752	1494	9.6%	0.61 [0.50, 0.74]	2010
Chang, et al 2012	339	762	1190	3043	9.7%	1.25 [1.06, 1.46]	2012
Lariou et al 2013	66	252	116	294	8.6%	0.54 [0.38, 0.78]	2013
Total (95% CI)		**6960**		**15332**	**100.0%**	**0.68 [0.51, 0.90]**	
Total events	2020		5301				

Heterogeneity: Tau² = 0.20; Chi² = 159.45, df = 11 (P < 0.00001); I² = 93%
Test for overall effect: Z = 2.71 (P = 0.007)

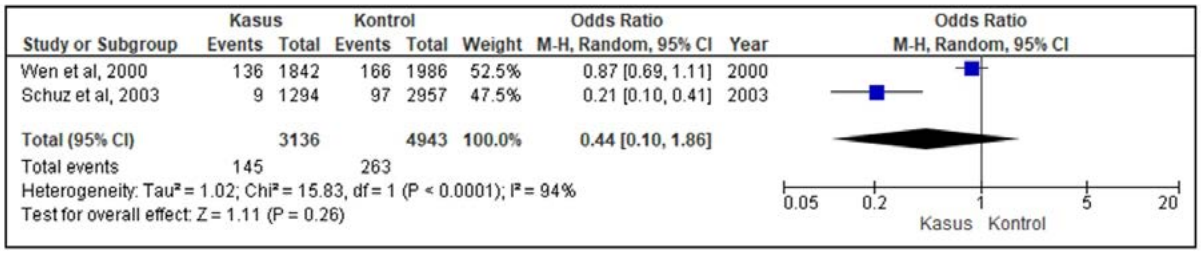
The correlation of asthma incidence towards Acute Lymphoblastic Leukemia



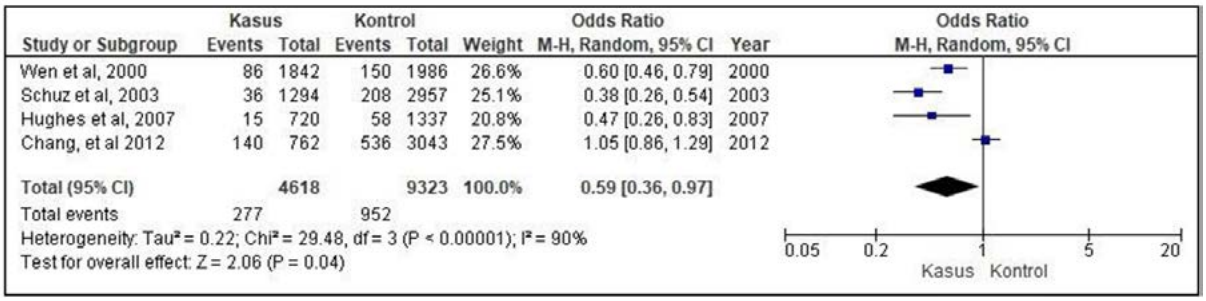
The correlation of atopic dermatitis incidence with acute lymphoblastic leukemia



The correlation of Urticaria incidence with Acute Lymphoblastic Leukemia



The correlation between allergic rhinitis and acute lymphoblastic leukemia



AI 41

Correlation of Body Mass Index with Handgrip Strength in Children with Systemic Lupus Erythematosus

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Background: Systemic lupus erythematosus (SLE) has a risk of sarcopenia and will cause fatigue. Sarcopenia in SLE patients is poorly investigated. Handgrip can detect fatigue-related muscular weakness. The aim of this research was to analyze the correlation between body mass index (BMI) and handgrip strength (HGS) in children with SLE. These correlations should be exploited to ameliorate chronic disease-related musculoskeletal and functional issues by improving nutritional status.

Methods: In this cross-sectional study, we included pediatric patients with SLE (12–18 years old). Anthropometry data (body weight, body height, and BMI), handgrip strength, and a 3-day food recall were collected at Dr. Kariadi Hospital from May 2023 to June 2023. The Spearman test was used in the analysis.

Results: Of the 34 samples, 14 children (41.2%) were underweight, 16 (47.1%) were normoweight, and 4 (11.8%) were overweight. The average of HGS (kg) was 30.26 ± 11.19 and 27.69 ± 10.49 for the right and left hands, respectively. HGS was not affected by daily protein intake. Normal protein adequacy participants had lower right and left HGS than mild protein deficit subjects. Overweight children showed higher right HGS (37.67 ± 15.10) and left HGS (35.67 ± 15.04). However, there was no significant correlation between BMI and right HGS ($p = 0.117$, $r = 0.274$) or left HGS ($p = 0.334$, $r = 0.171$).

Conclusion: From the results, there was no significant correlation between BMI and HGS, although the overweight group had greater hand grip strength than the normal and underweight groups.

Keywords: Systemic Lupus Erythematosus, Sarcopenia, Body Mass Index, Handgrip Strength

IMAG 10

Role of Acoustic Radiation Force Impulse (ARFI) Elastography Ultrasound in Children With Hepatic Cirrhosis

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Background : Liver biopsy is an invasive technique and considered the reference standard for the assessment of chronic liver disease (CLD). Currently there is an elastography examination to assess CLD with sensitivity and specificity of 90% and 85%. Acoustic radiation force impulse (ARFI) elastography examination is a non-invasive method to assess liver fibrosis which is easy to perform, only using an ultrasound (US) machine with standard probes and additional elastography application.

Case : A 6-year-old boy came to Cipto Mangunkusumo General Hospital (RSCM) with chief complaint of vomiting fresh blood since 30 minutes before admitting. Physical examination revealed icteric sclera, venectation in the abdomen and palpable enlarged spleen. Abdominal US examination revealed cirrhosis of the liver, splenomegaly, and ascites. The ARFI US during deep breath hold was performed showing mean shear velocity value of 14.4 kPA. This result showed the stiffness of the scar tissue in the liver. According to the guidelines, velocity below 5 kPA is considered normal, meanwhile the result above 13 kPA is highly suggestive advanced compensated CLD. He was discharged for evaluation of esophageal varices and biopsy for liver cirrhosis in the future.

Conclusion : The ARFI-based quantification of tissue stiffness is a preferred, non-invasive, and real-time imaging to distinguish CLD classification. The results of the ARFI US are comparable the result of biopsy.

IMAG 14

Redundant Colon Sigmoid as Cause of Fecaloma in Children: The Role of Contrast Enema

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Objective: Constipation is a common problem in children. In case of severe constipation, fecal impaction or fecaloma usually occurs, leading to bowel obstruction. Some etiologies are associated with fecaloma, ranging from nonorganic to organic condition, needing surgical approach. Contrast enema examination is reported to have sensitivity and specificity of 90% and 80%, respectively, in diagnosing Hirschsprung disease (HD). This case report showed the role of contrast enema examination in diagnosing the etiology of fecaloma in children.

Case: A 5-year-old female referred to Cipto Mangunkusumo hospital with chief complaint of not having defecation for 7 days before admission. She also suffered of abdominal pain, bloating, and vomiting. The defecation process usually took place every 2-3 days. On physical examination, the abdomen was distended, there were darm contour and "steifung", muscular defense, and pain on palpation. Bowel sound was increased and hyper tympanic. The abdominal X-ray in 3 position showed obstructive ileus without signs of pneumoperitoneum. Patient was diagnosed with mechanical bowel obstruction caused by fecaloma with suspected HD. The patient underwent fecaloma evacuation in the operating room. The patient then underwent contrast enema to evaluate the possibility of HD. The contrast enema revealed no transitional zone with long tortuous sigmoid colon which was in accordance with redundant sigmoid colon.

Conclusion: Contrast enema can help distinguish the causes of fecaloma in children, including differentiating the etiology from HD. During June 2021 – August 2023 in Pediatric Imaging Division, there were 38 contrast enema examinations performed, with total 18 results showed redundant colon.

Keywords: fecaloma, Hirschsprung, contrast enema, redundant colon

IMAG 15

Ultrasound Imaging to Diagnose Varicocele in Adolescents

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Objective: Varicocele in children had a prevalence of 15%, which could be more frequent at the start of puberty. Long term effects include testicular function damage, Sertoli cell proliferation, hormone secretion, testicular growth, and spermatogenesis disturbance. Varicocele could be diagnosed from physical examination. However, clinical evaluation is dependent on the physician's expertise. Ultrasound study is still the gold standard for diagnosing varicocele, with sensitivity and specificity of 97% and 94%, respectively. Varicocele diagnosis based on ultrasound study vary from grade I without dilated intrascrotal veins to grade V with veins dilation and reflux without Valsava maneuver. Prompt diagnosis and proper management are of importance for future fertility preservation. This case report aimed to present an ultrasound study of a patient with bilateral varicocele.

Case: A-17-year-old boy came with chief complaint of soft lump in both scrotums. He also felt low grade pain and heaviness in both scrotums. From physical examination, there was prominent palpable vascular on both testes, especially in while standing. Ultrasound study showed normal volume of both testes with dilated pampiniform plexus. During Valsava maneuver, reflux was seen in plexus upper pole of right testis (grade II) and lower pole of left testis (grade III). Varicocele microligation was done on both testes.

Conclusion: Early detection and management of varicocele is essential in improving fertility preservation. Ultrasound study is a preferred non-invasive tool to diagnose varicocele with high sensitivity and specificity.

Keywords: varicocele, ultrasound

IMAG 03

Head CT Scan Accuracy in Crouzon Syndrome Case Enforcement: Case Report

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Background: Crouzon Syndrome (CS) is a rare genetic disorder that results in an autosomal dominant mutation in one of the Fibroblast Growth Factor Receptor-2 (FGFR-2) receptor genes at chromosomal locus 10q25q26. Its prevalence reaches 16 in 1,000,000 newborns (1: 60,000). The appearance of CS varies greatly, depending on the specific cranial suture malformations, there are typical abnormal features on the face, hydrocephalus and even narrowed airways resulting in difficulty breathing.

Case: A six-year-old boy was brought to the pediatrician complaining of abnormal facial features with Dandy-Walker Syndrome. The patient has a history of prolonged coughing, respiratory distress, and noisy breathing patterns. Physical examination revealed hypertelorism, proptosis, beaked nose, micrognathia, retrognathia, and dental malformations. Head CT scan results without contrast found craniosynostosis in the coronal and lambdoidal sutures, defects in the sagittal suture measuring 36.6 mm, large head circumference at his age of 217.36 cm2, indentations in the right frontal and occipital lobes, calvarium thickening and hydrocephalus 0.274 with Evan's Index. The results of anamnesis, physical and supporting examinations lead to a diagnosis of Craniosynostosis syndrome, namely CS.

Conclusion : CS is usually suspected at birth by physical examination or ultrasound in the antenatal period. Investigation CT scan of the head is necessary to determine the presence of skull deformities in premature fusion and thickening to show early signs of cranial suture fusion. The need for early clinical and radiological diagnosis to be able to prevent mental delays, airway obstruction, and even intracranial hypertension, which can interfere with the child's life.

Keywords : Craniosynostosis, Crouzon Syndrome, Computed Tomography

Figure 1: Physical examination features show hypertelorism (red box), proptosis (green arrows), beaked nose (purple arrows), micrognathia and retrognathia of the mandible (blue arrows).

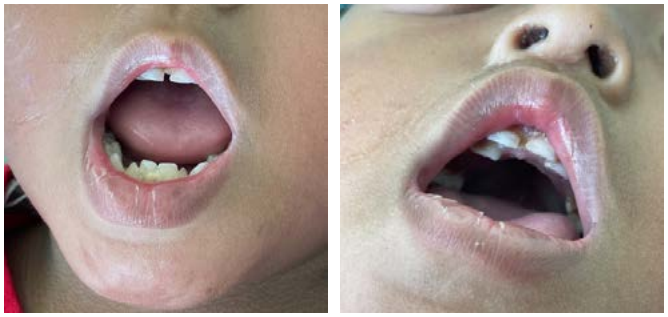

Figure 2 : Overview of dental malformations.

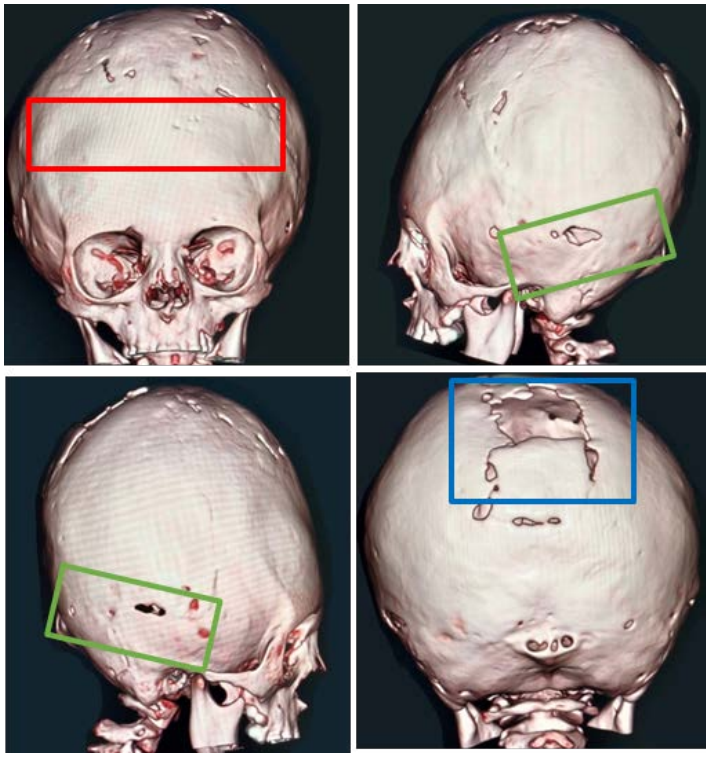

Figure 3: Overview of Coronal Suture Fusion (Red Box), Lambdoid Suture Fusion (Green Box) and Sagittal Suture Defect (Blue Box)

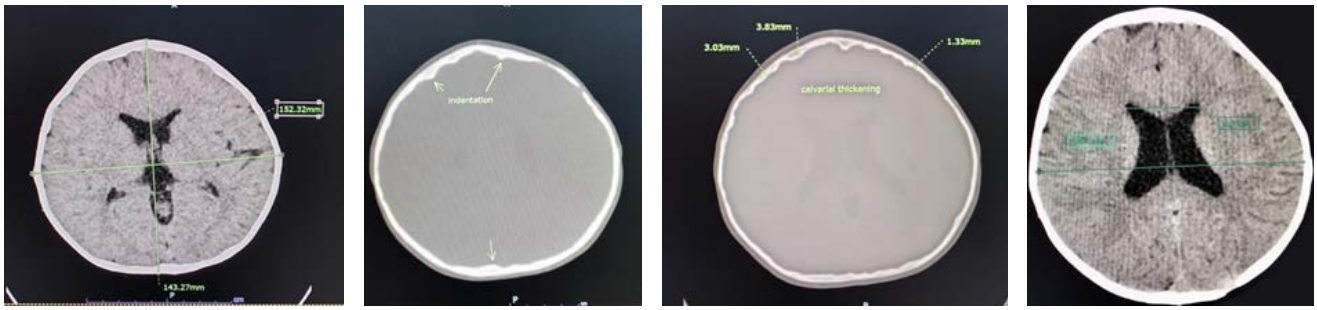

Figure 4 : Measurement of Head Circumference (A), Indentation in the Frontal and Occipital Lobes (B), Cervical Thickening in several places (C), and Hydrocephalus (D).

IMAG 05

Osteogenesis imperfecta clinical in 4 months infant: A case report from rural area

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Background: Osteogenesis imperfecta (OI) is a rare genetic disorder in connective tissue by disruption of type I collagen processes, one of the main components in bone tissue.[1,2] The main characteristic in patients with imperfecta osteogenesis is also called " brittle bone disease " with an incidence 1 of 20.000 births.[2] Type III-IV of osteogenesis imperfecta (OI) are progressive deformities and type II is a lethal condition in infants.[2,3] The diagnosis can be made clinically, radiographic support, and confirmation diagnosis by culture collagen analysis.[3,4] Multidisciplinary management involving medical care, physiotherapy, rehabilitation, and surgery shows good output.[2,3,5] This case report was made because of its scarcity and to establish a diagnosis, especially in remote areas and therapeutic management in limited facilities.

Objective: The aim of this case report is to describe the approach diagnosis of osteogenesis imperfecta based on clinical and radiographic findings.

Case description: A 4-month-old infant girl came to the child's unit with visible short hand bones and legs down, short stature, accompanied by shortness of breath when oxygen canule was released. The patient was born from a mother with a history of Cerebral Palsy (CP), 31 weeks GA and low birth weight. The patient was treated in NICU three times with multiple congenital diagnoses. Physical examinations showed bowing in the bilateral tibial and shorter of the os humerus bilateral. The skeletal survey showed soft tissue swelling, bowing, and hyperechoic callouses in superior extremities and inferior extremities that according to imperfecta osteogenesis (OI). The patient was treated with 500 iu/day of oral vitamin D therapy and rehabilitation care for quality of life.

Conclusion: This case report aims to emphasize the importance of early diagnosis of osteogenesis imperfecta (OI) in limited facilities. Well management in osteogenesis imperfecta is very important to reduce morbidity and improve the quality of life in patients with imperfecta osteogenesis (OI).

Keywords: osteogenesis imperfecta, brittle bone disease, collagen, rural area

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IMAG 09

Head Ultrasound for Diagnosis of Parenchymal Hemorrhage in Neonates: A Case Reports

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Background: Parenchymal injury is the most frequent type of brain lesion in preterm infants and may be present to some degree in up to 50% of very low birth weight infants. It remain has high mortality and morbidity in neonates. More than half of surviving infants develop cognitive and neurological deficits. Magnetic resonance imaging (MRI) is a gold-standard to diagnose brain injury in neonates but it more costly and requires transport and sedation. Cranial ultrasound is the preferred modality for initial and sequential studies in preterm infants.

Case: A 2-months-female baby was born at 27 weeks gestational age. The birth weight was 900 grams. The baby was born hospitalized in NICU for 60 days. The baby diagnosed with retinopathy of prematurity and has been refer to Cipto Mangunkusumo Hospital to did ophthalmology procedure. Two days after the procedure, patient looks mottled, weak, and not active. No sign of seizure and fever. Laboratory examination showed anemia and prolongation of coagulation factor. Head ultrasound was examine 2 weeks after onset via anterior fontanelle window. Small convex probe used to evaluate sagital midline and coronal planes. Increased echogenicity found in right parenchym showed there was active bleeding.

Conclusion: Parenchymal hemorrhage can developed to bad outcome. Early detection of hemorrhage is a key to diagnose and plan a treatment for neonatal with brain injury. Cranial ultrasound is a highly recommended to detect an brain injury in preterm baby. It has the advantage of being a bedside tool that allows safe, reliable serial imaging. Pediatrician must be concerned about preterm brain injury and clinical features in cranial ultrasound modality

Keywords: head ultrasound, neonates, parenchymal hemorrhage, brain injury

RES 40

Intertitial Lung Disease Due to Langerhans Cell Histiocytosis (LCH) Mimicking Pulmonary Tuberculosis (PTB): A Case Series

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Introduction: One of the interstitial lung diseases (ILD) is pulmonary Langerhans cell histiocytosis (PLCH). Diagnosing and managing PLCH in children is challenging because it often mimics other lung diseases, such as pulmonary tuberculosis (PTB). Herein, we report two cases known to have TB and later diagnosed with PLCH.

Case: The first case is a-23-months old boy who presented with paraplegia, incontinentia urine and alvi, gibbus, persistent cough, weight loss, low-grade fever, and had contact with an adult PTB. Neither the tuberculin skin test (TST) nor bacteriological examination supported TB, but a chest x-ray (CXR) indicated PTB. Thoracolumbar MRI revealed a suspected hematologic disorder. Bone marrow biopsy confirmed LCH. He was diagnosed with spondylomyelitis TB with Multisystem LCH (MS-LCH) and treated with antituberculosis and chemotherapy. The second case is a-16-months-old girl who was referred for respiratory distress, fever, jaundice, abdominal enlargement, and skin lesion. TST and bacteriological examination were negative, but CXR revealed miliary TB. Skin biopsy revealed LCH and Chest CT-Scan supporting a PLCH. She was diagnosed with MS-LCH, and chemotherapy therapy was started. Both of our patients showed clinical improvement after therapy.

Conclusion: Our cases highlight the complexity of PLCH diagnosis because it can mimic TB and vice versa. It is crucial to consider both LCH and TB as the differential diagnosis. Early diagnosis and prompt treatment are crucial to achieving favourable outcomes in PLCH cases.

Keywords: children, miliary tuberculosis, pulmonary Langerhans cell histiocytosis

RES 49

Role of QIAreach QuantiFERON-TB Test in the Diagnosis of Childhood Tuberculosis: A Cross-Sectional Study

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Background: Diagnosing childhood tuberculosis (TB) remains a complex challenge, with existing methods yielding relatively low positivity rates. Clinical judgment often guides the initiation of oral anti-tuberculosis therapy due to limitations in confirming bacterial presence. Tuberculin skin tests (TST) and interferon gamma release assays (IGRA) are employed to aid TB diagnosis. The current methods of IGRA, QIAreach QuantiFERON-TB, boasts faster results. This study aimed to assess the utility of QIAreach QuantiFERON-TB in diagnosing TB in children.

Methods: A cross-sectional study involving children aged 0-18 years with suspected TB was conducted. The study encompassed detailed medical history, physical examination, chest x-ray, TST, IGRA (QIAreach QuantiFERON-TB), and rapid molecular testing (GeneXpert MTB/RIF). Statistical analysis was performed using IBM SPSS Statistics software (version 2.3), considering p values < 0.05 as statistically significant.

Results: The study enrolled 40 children with presumed TB, with a median age of 6.5 years. Among them, 17 (42.5%) were ultimately diagnosed with TB. Of these, 10 (25%) tested positive on TST, 18 (45%) exhibited IGRA positivity, and 8 (20%) received bacteriological confirmation. Neither IGRA nor TST demonstrated a significant association with TB diagnosis ($p=0.606$, 95% CI 0.112-3.579, and $p=0.061$, 95% CI 0.008-1.114, respectively).

Conclusion: While a positive IGRA result did not display a direct association with TB diagnosis, its potential in aiding TB diagnosis was comparable to that of TST. The diagnosis of tuberculosis necessitates a holistic approach, combining clinical history, physical examination, radiological findings, and microbiological tests, rather than relying solely on laboratory results.

Keywords: Tuberculosis, tuberculin test, IGRA

RES 22

The Role of Probiotics in Preventing Ventilator-Associated Pneumonia in Critically Ill Children: A Systematic Review and Meta-Analysis

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Background: Ventilator-associated pneumonia (VAP) is the second most common nosocomial infection in pediatric intensive care units, accounting for up to 20%. While probiotics have shown benefits in preventing VAP in adults, their efficacy and safety for children are still inconsistent.

Objective: This study aimed to show the benefit of probiotics in preventing VAP in children.

Methodology: We searched the articles from Pubmed, Scopus, ScienceDirect, Embase, and Cochrane Library. We screened, selected studies, extracted data, and assessed article quality using The Cochrane bias risk assessment tool. The statistical analysis was conducted using Review Manager 5.4.

Results: We included four randomized control trials in our study involving 487 patients aged neonates up to 12 years. Our meta-analysis demonstrates that the risk of VAP incidence, mortality rate, and risk of sputum colonization were lower in the probiotics group compared to the placebo, with OR values of 0.40 (95% CI 0.22-0.73), 0.72 (95% CI 0.4-1.27), and 0.38 (95% CI 0.24-0.58), respectively. Our data also show a shorter duration of intensive care stay, hospital stay, and ventilator use in the probiotics group compared to placebo with mean differences of 2.77 days (95% CI 0.24-5.30), 5.98 days (95% CI 2.59-9.37), and 2.34 days (95% CI 0.28-4.39), respectively.

Conclusion: Probiotics significantly reduce VAP risk, mortality, colonization, and duration of intensive care stay, hospital stay, and ventilator use in critically ill children.

Keywords: Pediatric, Probiotics**,** Ventilator-associated pneumonia

RES 25

15-Valent Pneumococcal Conjugate Vaccine in Pediatric Population: Systematic Review of Efficacy, Safety, and Cost Effectiveness

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Background: Pneumococcal disease (PD) remains a concerning health issue with high morbidity and mortality in children. Despite the use of 13-valent pneumococcal conjugate vaccine (PCV13), non-PCV13 serotypes have contributed to residual diseases with rising prevalence. Thus, 15-valent PCV (PCV15) with added protection from 22F and 33F serotypes is enforced. This systematic review aims to evaluate the efficacy, safety, and cost-effectiveness of the use of PCV15 in pediatric population.

Methodology: Literature search was conducted in six databases (Scopus, PubMed, Cochrane, EMBASE, ScienceDirect, and EBSCOHost) using PRISMA guideline. Twelve studies evaluating PCV15 compared to PCV13 were included in this review. We evaluated the immunogenicity (IgG GMC value, non-inferiority analysis, difference of seropositivity rate), adverse effects, and cost effectiveness in the use of PCV15.

Results: Four articles reported non-inferiority of PCV15 to PCV13 for mostly shared serotypes in terms of serotype-specific IgG geometric mean concentrations (GMC) with added protection against 22F and 33F serotype. Adverse events between the two vaccine are comparable, with similar findings for the 7-11 months and 2-17 years age group. The most common AEs were pain, redness, fever, irritability, somnolence, and myalgia. Six articles demonstrate the cost savings and effectiveness of the PCV15 with substantial cost savings for pneumococcal disease treatment costs, supporting the vaccine's effectiveness in reducing healthcare expenses compared to PCV13 over a long-term period.

Conclusion: PCV15 has demonstrated comparable immunogenicity and safety as compared to the PCV13. The use of PCV15 also results in substantial cost savings for pneumococcal disease treatment and reduced healthcare expense.

Keywords: Pneumococcal Conjugate Vaccine, PCV15, Pneumococcal Disease, and Systematic Review

RES 58

Factors Associate with Upper Respiratory Tract Infection in Children with Congenital Heart Disease : A Cross-Sectional Study

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Background : Upper respiratory tract infections (URTI) commonly are self-limiting disease but yet it can be another sign of complication from congenital heart disease (CHD). URTI deserve special attention in children with CHD for as known to be the most common reason for children to go to emergency center. The aim of this study is to investigate factors associate with URTI in children with CHD.

Methodology : A cross-sectional study was performed in 169 children at age 3th – 8^{th} years old in Kandou Hospital. To determine the CHD, we perform echocardiography examination while for URTI we define it from physical examination. Statistical analysis using chi square with p value < 0.05 considered being significant and odds ratio > 1 considered have causal effect.

Results : Among 169 children with CHD, there are 77 children (46%) that have URTI. There is a significant positive relationship between children with CHD and incidence of URTI (p=0.0001; OR 5.18). Other factors associated with URTI are socio-economic status (p=0.037; OR=3.02), exclusive breastfeeding (p=0.0027; OR=2.25), children nutritional status (p=0.002; OR=1.89), and children immunization status (p=0.0006; OR=3.71)

Conclusion : Early screening and prompt treatment to children with CHD is recommended to decrease incidence of URTI, besides comprising other factors such as socio-economic status, exclusive breastfeeding, children nutritional and immunization status.

Keywords: congenital heart disease, upper respiratory tract infection

RES 64

Contact Investigation Implementation in Children Exposed to Adults With Drug-Sensitive Tuberculosis: When Reality Has Not to Meet Expectations

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Background: Contact investigation (CI) has been universally recommended for all tuberculosis (TB) sufferers. However, its implementation is challenging due to various causative factors. Our study aims to describe how CI efforts are carried out in adult patients with drug-sensitive tuberculosis (DS-TB) to their children.

Methodology: This cross-sectional descriptive study was conducted in children under 18 years old who had close contact with adults DS-TB at Hasan Sadikin Hospital. We used documented data of adults TB in directly observed treatment short-course (DOTS) clinic data from January–May 2023. We contacted those index cases by phone to find out whether the CI was performed. We identified demographic characteristics such as gender, age, contact investigation attempts, and outcomes. Categorical data is presented in terms of frequency.

Results: Thirty-two out of 200 adults DS-TB registered had children aged <18 years with 52 children were in close contact. Nine out of 52 children underwent a tuberculin skin test (TST) for CI, but no one received tuberculosis preventive therapy (TPT). Only one child had been treated for TB disease. Most index cases (84%) stated they had never been educated relating the need for CI.

Conclusion: Implementing CI in community still has not met expectations. It is necessary to re-emphasize the importance of CI to break the chain of TB transmission, not only to health workers but also to the community. Provision of TPT for those indicated is needed to eradicate TB optimally. In addition, our findings suggest further study on the community to perform active CI.

Keywords: children, contact investigation, drug-sensitive tuberculosis, tuberculosis preventive therapy

Gastro 36

Prevalence and Associated Factors of Infantile Colic in Infants of Mothers Participating in Medical Residency Training Programs

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Background: Infantile colic, characterized by excessive crying in infants without signs of illness or failure to thrive, can lead to recurrent emergency department admissions, irrational therapy, and child abuse. Inadequate mother-infant bonding is a possible cause, while maternal depression and lack of family support could increase the risk of infantile colic. Mothers participating in medical residency training programs may be at increased risk of inadequate mother-infant bonding due to excessive working hours, reduced bonding time, burnout, and depression. However, data on the prevalence and associated factors of infantile colic in this population are lacking.

Methods: We conducted a cross-sectional study involving 67 infants of mothers in medical residency training programs across seven centers in Java and Sumatra. We used the Indonesian-translated Parent Report Questionnaire for Children Aged 0-3 years to evaluate infantile colic and the Indonesian version of the Mother-Infant Bonding Scale Questionnaire to evaluate the risk of mother-infant bonding. An online link for the questionnaire was distributed via WhatsApp©.

Results: Eighteen subjects (26.8%) experienced infantile colic. A high risk of mother-infant bonding problems was associated with infantile colic (P<0.046, OR:2.922, 95% CI: 1.07-4.87). The type of nutrition (breast milk or a combination of formula and breast milk) was not statistically significantly different (P=0.602, OR: 1.333, 95% CI: 0.451-3.940).

Conclusion: A high risk of mother-infant bonding problems can increase the likelihood of infantile colic in infants of mothers participating in medical residency training programs.
Keywords: Infantile Colic, Medical Residency, Mother-Infant Bonding

Gastro 42

Efficacy of *Moringa oleifera*-based Biscuits with Glutamine, Zinc, Prebiotics, and Fibre on Intestinal Mucosa in Undernourished Children Aged 12-18 Months

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Background / Objective : Malnutrition can cause intestinal mucosal atrophy, resulting in permeability disorders and nutrient malabsorption. Moringa oleifera fortification with glutamine, zinc, prebiotics, and dietary fibre is very important in the regeneration of the intestinal mucosa.

This study aims to examine the efficacy of *Moringa oleifera*-based fortified biscuits for impaired intestinal mucosal integrity and growth of undernourished children aged 12-18 months.

Methods : Fortified *Moringa oleifera*-based biscuit was formulated and taste was tested. A double-blind, parallel group clinical trial examined the efficacy of fortified biscuit for six months in undernourished children aged 12-18 months on the intestinal mucosal integrity by measuring *Intestinal fatty acid binding protein* (IFABP), *alpha antitrypsin (*AAT) and *calprotectin.*

Result : After the biscuit was formulated, we did the taste test to 45 preschool children. Fifty one percent like the biscuit. Fitfy seven subjects divided into groups with (28) and without (29) fortified biscuit. The decrease of IFABP, AAT and calprotectine in intervention gorup were significant at the 6th month compared to intervention group. However, the decrease of IFABP, AAT and calprotectine in both groups were significant at the 3rd month and 6th month from the baseline. The value of the mean z-score (bodyweight/age) in the intervention group was increase significantly ($p<0,001$) when compared to the control group at 4th month. The average weight/height increased significantly in the 3rd month.

Conclusion : Supplementation of *Moringa oleifera*-based fortified biscuits for 6 months was shown to improve intestinal mucosal integrity and increased the growth of undernourished children.

Keywords: AAT, calprotectin, IFABP, malnutrition children, *Moringa oliefera*

Gastro 37

Abdominal Pain Profile in Children with Gastrohepatology Disease: An outpatient clinic registry

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Background: Abdominal pain is the most common symptoms at the outpatient gastrohepatology clinic and impact on poor quality of life. It has wide spectrum of clinical presentation. It is classified as functional and organic. Organic abdominal pain was part of gastrohepatology disease and should done specific workup and treatment. However, there is still a lack of data about abdominal pain profile in children in Hasan Sadikin Hospital.

Objective: To knowing abdominal pain profile in outpatient gastrohepatology clinic.

Method: A retrospective study was conducted in children who had visited gastrohepatology outpatient clinic at Hasan Sadikin Hospital for the period of January 2021 to June 2023. Abdominal pain profile collected from medical record and gastrohepatology registry. The result was analyzed using SPSS version 26.0.

Result: A total of 250 subjects was enrolled in this study, consist of 162 (64,8%) female and 88 (35,2%) male. Mean age of subject were 10,6 years old. Chronic pain was found in 62% and it most located in epigastric region 65 (26%). Accompanying symptoms predominantly was black stool (22%), followed by nausea (12,8%). The etiology was quite vary, the most cases were caused by gastritis 79 (31,6%). Most cases were functional disorder 182 (72,8%). Nearly half of subjects were malnutrition. In this study, 46 subjects (18,4%) were performed endoscopic examination.

Conclusion: Majority subjects in our study had chronic pain at epigastric region and had black stool and nausea as accompanying symptoms. Functional disorder was being the most predominant case.

Keywords: abdominal pain, pediatric gastrohepatology

Gastro 48

Pediatric Inflammatory Bowel Disease (PIBD) in Dr. Soetomo Academic Hospital: A Study of 8 Cases

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Background : Inflammatory bowel disease(IBD), including Crohn's disease(CD) and ulcerative colitis(UC), is chronic inflammatory disease of gastrointestinal tract, which 25%cases began from childhood, with pathogenesis of mucosal immune system dysregulation influenced by host genetics, environmental, and microbial factors. The incidence of PIBD(pediatric IBD) in Asia Pacific tends to increase, including Indonesia, with different patterns compared to Europe, so it is important to study the characteristics.

Case : Eight cases of IBD were presented, 6 male CD, 4 with moderate malnutrition and 2 with severe malnutrition, and 2 female UC with normal nutritional status. Diagnosis was established by endoscopic examination confirmed by histopathology(7), or MR enterography(1), with means age at diagnosis was 121±64months for CD and 204±4months for UC. The most complaints were decreased appetite(8), decreased body weight(7), abdominal pain(6), and bloody stools(6) with duration 1-9 years. Means of hemoglobin, leukocytes, erythrocytes, platelets, hematocrit, AST, ALT, albumin, BUN, and serum creatinine were 10.4±1.72g/dL, 12.19±3.89x103/µL, 4.48±1.05x106/µL, 544.38±217.60x103/µL, 33.80±5.82%, 27.00±8.35U/L, 23.13±16.85U/L, 3.62±0.66g/dL, 7.16±2.93mg/dL, and 0.47±0.13mg/dL, respectively. In CD, remission was induced with exclusive enteral nutrition(EEN) for 12 weeks with/without steroids, maintained by immunomodulators(5) and/or monoclonal antibodies(1). UC patients were treated by immunomodulators with/without steroid induction. The pediatric-Crohn's-disease-activity-index(PCDAI) and pediatric-ulcerative-colitis-activity-index(PUCAI) were used to monitor disease activity.

Conclusion : The age at diagnosis varies from toddlers to teenagers, most established by endoscopy. Symptoms were chronic and nonspecific, and malnutrition was more often found in CD. Anemia, leukocytosis, and thrombocytosis were common. Management was carried out according to guidelines to achieve and maintain remission with periodic monitoring.

Keywords: Crohn's disease, endoscopy, malnutrition, pediatric IBD, ulcerative colitis,

Gastro 52

Clinical Profile of Pediatric Portal Hypertension with Oesophageal Varices Post Splenorenal Shunt in Soetomo General Hospital

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Objective: The optimal management of oesophageal varices (OV) bleeding in patients with non-cirrhotic portal hypertension (NCPH) is debatable due to the lack of data from large randomized controlled trials. This remains a big challenge in future management and therapy. This study aims to evaluate the outcome after pediatric portal hypertension patiens post splenorenal shunt procedure, include the rebleed episodes, nutritional status, and clinically improvements.

Methodology: From January 2017 to July 2023, a cross-sectional study was conducted in Soetomo General Hospital. Totally 9 children have undergone a splenorenal shunt, were enrolled for the evaluation. The Statistical Package for the Social Sciences (SPSS) version 27 was used to analyze the data.

Results: The mean age of enrolled participants was 8.34 ± 4.83 years. From totally 9 patients, OV grading based on esophagogastroduodenoscopy (EGD), 11% with VE grade I, 22% with VE grade II-III, and 67% with VE grade III-IV. From EGD also, revealed 55% with RCS (+) and 67% with congestive gastropathy. In this study, we found that 88% experienced moderate to severe malnutrition, episodes of rebleeding were still found in 77%, 45% had worsening platelet count, and 78% increase in spleen size after splenorenal shunt procedure.

Conclusion: From this study, we can conclude that the splenorenal shunt only is not adequate enough to provide clinical improvement. This issue will be very challenging to resolve both clinically and surgically by looking for another way out, with future studies that have a larger sample size.

Keywords: Portal, hypertension, oesophageal, varices, splenorenal

Gastro 59

Aspartate Aminotransferase-To-Platelet Ratio Index in Children with Cholestasis

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Background : Cholestasis is defined as increased direct bilirubin level greater than 20% from total bilirubin. Serum aminotransferases are elevated in most liver diseases and disorders involving the liver. Platelets role an essential component in primary hemostasis with another function is an important marker of inflammation. The development of noninvasive markers of hepatic fibrosis is a clinical and research priority. The Aspartate aminotransferase-to-platelet Ratio Index (APRI) is an indirect biochemical marker of hepatic fibrosis, based on limited expense and widespread available laboratory parameters, reflecting alterations in hepatic function. The aspartate aminotransferase-to-platelet Ratio Index could be used as a non-invasive alternative index for assessing the severity of hepatic fibrosis in cholestasis patients.

Method : The study was conducted an observational analytic with cohort study in patients with cholestasis aged 1 month until 18 years admitted in Prof. Dr. R.D. Kandou General Hospital Manado from September 2022 to February 2023.

Result : The sample were dominated in male 56,25% (n=18). The aspartate aminotransferase-to-platelet Ratio Index values in this study was 2.42 (IQR 0.51 – 6.39; p = 0.001). The study revealed a significant correlation between APRI and in children with cholestasis, with an OR (95% CI) of 2.13 (1.21:4.46) and p = 0.011.

Conclusion: The aspartate aminotransferase-to-platelet Ratio Index has a significant correlation in children with cholestasis.

Keyword : APRI, cholestasis

COL 03

Finding Gaps between The Intra-Learning Process and The Post-Learning of The Paediatric Residency Program: A Qualitative Study

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Background: In order to provide effective care, life-long learning is an obligation for a doctor. Core competencies have been developed by the Indonesian Collegium of Child Health and implemented through paediatric residency programs. Upon graduation, these residents face competency challenges related to diverse demographics, cultures and medical facilities. This study explored the gaps between core competencies during the paediatric residency program and professional experiences as paediatrician.

Methodology: A qualitative study was conducted with Focus Group Discussion using semi-constructed questions. Paediatricians graduating from Paediatric Residency Program Universitas Sebelas Maret with professional experience of 3 to 18 months were included. The discussions were recorded and transcribed for analysis. To analyse the data, we performed data grouping, information labelling, and data coding to identify the main contexts.

Results: Twelve graduates were involved in this study. The subjects had completed the residency program from 8 to 11 semesters and were currently working in type B, C, and D hospitals in six different provinces. They stated that the core competencies were taught sufficiently during the residency to support the professional experience. Some challenging findings involved a variety of diseases due to different demography, limited medical resources, and the capacity to deliver bad news that could be legally harmful. Most graduates take action to fill the gap by pursuing continuing medical education.

Conclusion: The curriculum standard was sufficient to meet the requirements of professional work as a paediatrician. However, there are some gaps that graduates should fill after completing the paediatric residency program.

Keywords: intra-learning process, paediatric residency program, post-learning

COL – 2- 04

Correlation Educational Environment, Wellness and Resiliency to Burnout in Pediatric Residency Universitas Andalas/ RSUP DR. M. Djamil Padang

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Background : Burnout is associated with decreased performance in medical trainees. The workload, environment, individual wellness and resilience may influence level of burnout. Aim of this study is to explore the correlation between environmental education, wellness, resilience to burnout.

Methods : We conducted a cross sectional study on pediatric resident at Universitas Andalas, Padang, Indonesia. This is an observational study using 4 instruments; Maslach Burnout Inventory-Human Services Survey (MBI-HSS), Postgraduate Hospital Educational Environment Measure (PHEEM), Connor-Davidson Resilience Scale (CD-RISC)-25, and Resident Wellness Scale. Bivariate data analysis was performed using chi square for categorical variable and t-test or analysis variance for continuous variable with a significance level $p<0.05$.

Results : About 62 of 66 pediatric resident completed in this study, with average age 32,24 (SD 2,97) years old. The mean total PHEEM score was 108.19 (SD 11.62), that means more positive than negative. Resident's resiliency was 73,73 (SD 12,56) in second quartile of CD-RISC 25, and Wellness was 37,15 (SD 4,72). Burnout was high in 37 of 62 residents (59,68%), with emotional exhaustion, depersonalization and personal accomplishment 38,71%, 30,65%, and 37,10%, respectively. The correlation of educational environmental and burnout, burnout and wellness, burnout and resilience were significant with p value was 0.046, 0.003 and 0.003, respectively. Another factor associated with burnout was weekend duty in a month and study group.

Conclusion : Educational environment of our pediatric residency is perceived good and the individual resilience and wellness needed improvement. Future research should be addressed to intervention method to improve educational environment, wellness and resilience to reduce burnout.

Keyword : burnout, educational environment, wellness, resiliency, pediatric residents

COL-2-02

Risk Factors of Long Study Duration among Pediatric Residents in Bali

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Background : The specialty programme has a responsibility to increase number of resident that complete the study on the standard time with expected competencies. The objective of the research was to identify prevalance and risk factors of long study duration among pediatric residents in Faculty of Medicine Universitas Udayana.

Methodology : We performed retrospective study based on database on the Pediatric Specialty Study Udayana University. Longer study duration defined as completion more that 8 semesters. Bivariate analysis was performed using independent T test and multivariate analysis with logistic regression , with $p < 0.05$.

Results : During 2019-2023, there were 96 residents who included in the research. Longer study duration (>8 semester) was found in 89.6% residents. There were no difference regarding male versus female and not married versus married among the longer study duration residents (84.6 vs. 91.4% and 87.7 vs. 93.5%, respectively). All residents who funded by scholarship and 87.4% self-funded residents had longer study duration. Association of longer study duration with stages completion (junior, madya and senior) and duration of thesis completion were analyzed. Duration of senior stage completion (mean difference 7.591; 95% CI 3.74-11.43; $p <0.001$) and duration of thesis completion(mean difference 11.33; 95% CI 5.45-17.20; $p <0.001$) associated with longer study duration. Mutivariate analysis showed duration of senior stage completion (exp B 0.357; 95% CI 0.167-0.763; $p <0.008$) with R^2 0.616 was associated with long study duration.

Conclusion : Residents with long study duration (>8 semesters) were 89.4%. Duration of senior stage completion was risk factor of longer study duration.

Keyword: Residency, study duration, risk factors

COL-2-03

Factors Effecting Bullying Among Pediatric Residents in Dr. Soetomo General Hospital in Surabaya, Indonesia

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Background: Bullying within medical education is a pervasive issue that can have profound consequences for both students and the quality of care they provide as future healthcare professionals. This study explores the multifaceted risk factors associated with bullying incidents in specialist medical education programs.

Methods: The method used in this study is descriptive analytic with a cross sectional approach. The dependent variable is the incidence of bullying in resident and the independent variables are resident level, gender, university origin, work experience, family status, living with parents/family, and educational experiences. The sampling technique used was purposive sampling with a total of 72 resident respondents at RSUD Dr. Soetomo Surabaya through questionnaire. The statistical test used is spearman rho and chi square test.

Result and Discussion: There were 22.7% of respondents who felt they had been bullied and most were at the junior level. Based on the Spearman rho analysis at the resident level, a correlation coefficient value of -0.248 ($p=0.035 <0.05$) indicates that there is a very weak negative relationship and significant value between the resident level and the incidence of bullying. The higher the resident level, the lower the incidence of bullying Meanwhile, on the chi square test, it showed that there was no significant relationship between gender, university origin, work experience, family status, living with parents/family, and educational expenses with the incidence of bullying ($p>0.05$ for all variables).

Conclusion: This paper shows that resident level can be a risk factor for bullying incidents in Dr. Soetomo General Hospital.

Keywords: bullying, resident, risk factor

COL 01

Entrustable Professional Activities during Pediatric Subspecialty Training Program: Student versus Teacher Perspectives

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Background: Entrustable professional activities (EPAs) in pediatric subspecialty program are observable, routine activities that a pediatric subspecialist fellows should be able to perform safely and effectively to meet the needs of their patients. It is important to assess EPAs since subspecialty fellows have to perform difficult procedures and/or severe cases.

Objective: To evaluate the implementation of EPAs of pediatric subspecialty during training, based on students and teachers' persepective

Methodology: This study was conducted in Ciptomangunkusumo Hospital Jakarta in July 2023. The subjects were pediatric subspecialist fellows and teachers in Child Health Department, Faculty of Medicine, University of Indonesia. We administered a questionnaire about EPAs to all of subjects.

Results: Fifty-four pediatric subspecialty fellows and thirty two supervisors have completed the questionnaires. The subjects were from 14 pediatric subspecialty divisions. Majority of subjects (88% of teachers and 86% of students) know the level of supervision in the training. Most of subjects (93% of teachers and 82% of students) stated agreement that difficult procedures and severe cases were treated with direct supervision from teachers. Supervisors and fellows agreed that health counseling to patients and public health care also be done based on level of supervisions.

Conclusion: EPAs have been conducted in a good performance based on students-teachers' persepctive.

COL 2

Are bed-side supervision and clinical practice guidelines still a weapon for academic hospital managers to achieve "high-value cost-consciousness-care" during pandemic?

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Background: Clinical Practice Guidelines (CPG) and supervision are essential when hospitals experience a scarcity of resources.

Objective: To know whether the negative impact of the pandemic on clinical and financial outcomes of non-COVID-19 patients can be overcome by CPG and supervision.

Methodology: A cohort retrospective study consisted of non-COVID-19 patients in Dr.Soetomo General Academic Hospital. Data was collected from 83,817 medical and 67,101 surgical patients. Outcomes in patients treated during the pandemic compared to before, and those treated by medical residents compared to surgical residents.

Results: The COVID-19 pandemic impacted the presence of nurses and supervisors and the profile of patient visits, which are associated with clinical and financial outcomes in the care of non-COVID-19 patients. CPG and supervision had a significant effect on clinical and financial outcomes for all patients. Compared to before, during a pandemic, CPG did not moderate inhibiting the negative impact of the pandemic on the clinical outcomes in all patients but moderated inhibiting the negative impact of the pandemic on the financial outcomes by increasing the total cost of care and decreasing insurance claim profit in the surgical patient. Supervision only moderated inhibiting the negative effect of the pandemic on the clinical outcomes by decreasing aLOS in medical patients.

Conclusion: CPG does not inhibit the negative impact of the pandemic on the clinical outcome of all patients but inhibits the negative impact on the financial outcome of surgical patients. Supervision only inhibits the negative effect of the pandemic on the clinical outcomes of medical patients.

Keywords: COVID-19 pandemic; residents; clinical practice guidelines; supervision; clinical-financial-outcomes.

MISCL 30

Correlation of Vascular Endothelial Growth Factor (VEGF) and Vitamin D Levels in Obese Children

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Background: Prevalence of obese children is already at an alarming level. Obesity is a major risk factor for increased disease morbidity and mortality. Obese children experienced vitamin D deficiency, causing impairment on important biological processes in the body. VEGF is a substantial indicator of disease pathophysiology. The purpose of this study is to determine the relationship between the level of VEGF and vitamin D in obese children.

Method: This cross-sectional study was conducted on February to April 2023. The subjects were obese children from middle and upper socioeconomic levels of a junior and senior high school students in Makassar, aged 11 to 17 years. Out of 146 obese children, 95 samples met the research criteria, then 25(OH)D levels and VEGF levels were analysed. VEGF levels were measured in both groups and data analysis were carried out.

Results: There was a significant difference in VEGF levels in obese children with vitamin D deficiency with p values = 0.001 ($p<0.05$), OR 4.643 (95% CI 1.878-11.478) compared to healthy children. There was a weak correlation between vitamin D levels and VEGF levels in obese children ($r = -0.357$ with $p = 0.000$ ($p< 0.05$)). A significant relationship was found in vitamin D deficiency group with cut-off point of VEGF levels (≥165.705 pq/mL) compared to obese children without vitamin D deficiency ($p = 0.000$ ($p<0.05$), OR 4.684 (95% CI 1.971-11.131).

Conclusion: Obese children with vitamin D deficiency have increasing risk of elevated VEGF levels.

Keywords: VEGF, vitamin D deficiency, obese children

MISCL 38

Predictors of Mortality in Children with Ethylene/ Diethylene Glycol Intoxication Based on Laboratory Profiles

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Background: Acute Kidney Injury (AKI) caused by Diethylene/ Ethylene Glycol (D(EG)) is often associated with high mortality especially in children. Thus, this study aims to identify the best predictors of mortality in children with D(EG) intoxication in order to help clinicians to prioritize those children with higher mortality rate.

Methodology: This is a cross-sectional study. Demographics and laboratory data from confirmed D(EG) intoxicated pediatric patients at Cipto Mangunkusumo Hospital were collected during the period of January to November 2022. AKI was classified based on the latest Kidney Disease Improve Global Outcomes (KDIGO) criteria. Anion gap was calculated using the following formula: ($Na^+ - Cl^- - HCO3^-$) and corrected using the Figge equation: anion gap +2.5 × [4.4 – observed serum albumin (g/dL)]. D(EG) intoxication was confirmed by toxicology testing either from blood or urine samples.

Results: Sixteen patients tested positive for D(EG) from either blood or urine samples. The mean age of these patients was 46.4±29.0 months, with a predominance of male patients (68.7%). Mortality was recorded in six patients (37.5%). Corrected anion gap value of ≥12.7 mEq/L had sensitivity of 100% and specificity of 60% to predict mortality. Meanwhile, $HCO3^-$ value of ≤16.5 (mEq/L) had sensitivity and specificity value of 100% and 50% to predict mortality. Lastly, serum calcium ion level of ≤1.04 (mmol/L) had sensitivity value of 66.7% and specificity value of 60% to predict mortality.

Conclusion: Corrected anion gap of ≥12.7 mEq/L and $HCO3^-$ value of ≤16.5 were the best predictors of mortality in children with D(EG) intoxication. Therefore, clinicians should be more vigilant when treating children with those aforementioned laboratory results as they have higher mortality rate.

Keywords: Acute Kidney Injury, Diethylene Glycol, Ethylene Glycol, Mortality, Predictors

MISCL 53

The Diagnostic Accuracy of Neutrophil Gelatinase-Associated Lipocalin in Paediatric Acute Kidney Injury Due to Septic

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Background: Acute Kidney Injury (AKI) was defined as the sudden deterioration of the kidneys' ability to maintain normal homeostasis; its occurrence in sepsis among children is a significant mortality risk factor. Determining the function of the kidneys requires a comprehensive evaluation of the glomerular filtration rate (GFR); however, identification of a specific protein found in the tubules of the kidneys, such as Neutrophil Gelatinase-Associated Lipocalin (NGAL), can aid in the diagnostic process. This study aims to determine the diagnostic accuracy of NGAL for AKI in paediatric patients at our health centre.

Methodology: This cross-sectional study was conducted from February to April 2022 at the Haji Adam Malik General Hospital. Patients diagnosed with sepsis with or without AKI were included. The NGAL level was determined 24 hours after the diagnosis and will be classified as high or low. All statistical calculations were carried out using SPSS 22.0.

Results: We included 64 pediatrics with the mean age of 13.7 ± 3.6 (62.5% male; 53.1% was diagnosed with AKI). The median of NGAL level is higher in AKI (246.7 (17.4-698.6) ng/L) vs. non-AKI (76.3 (13.3-166.3) ng/L) group, its significance was confirmed statistically ($p<0.05$). Similar findings were also observed in blood urea nitrogen (BUN), serum urea, and creatinine in which all appear to be increased as well. The NGAL's cut-off value was 114.3, though the used 126 ng/L demonstrated favorable diagnostic accuracies in sensitivity (79.4%), specificity (83.3%), positive predictive value (PPV; 84.4%), and negative predictive value (NPV; 78.1%).

Conclusion: This study demonstrated the potential value of NGAL in diagnosing paediatric AKI with satisfactory performance.

Keywords: Acute kidney injury, Biomarker, Neutrophil-Gelatinase Associated Lipocalin, Pediatric, Sepsis

MISCL 27

Mini-The SMART TEENS Project (Mini-TSTP): An Advertisement Literacy Approach to Protect Institutionalized Teenage Orphans Against Conventional and Electronic Cigarette

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Objective: Teenagers in orphanage are more vulnerable to smoking compared to their peers. Hence, a safeguard measure like advertisement literacy is needed. Advertisement literacy (AdLit) is a novel approach to reduce smoking prevalence in youths since tobacco advertisement is now considered as smoking etiology. We have previously conducted a 4 week-TSTP (an evidence-based, online anti-tobacco program for teenagers). The present study is to examine its condensed form, reduced into one offline meeting.

Methodology: Before the intervention, we showed two advertisement videos of cigarette and e-cigarette to 115 teenagers. Subsequently, they were asked whether: 1) the ads are cool, 2) they were interested to buy the product, 3) they were angered by the ads. After the 90 minutes-interactive lecture, teenagers re-watched the advertisements and completed a post-intervention questionnaire. Program's effectiveness was assessed by measuring the score difference between pre and post-test. Statistical analysis was performed using SPSS.

Results: Approximately 75% of participants lack sufficient knowledge towards cigarette and e-cigarette ads. We also found that: 1) the proportion of participants who deem the ads enticing dropped, from 71% to 47% for cigarette (p=0.000), and from 73% to 57% for e-cigarette (p=0.000), 2) the desire to buy cigarette reduced from 19% to 13% (p=0.005), and 3) participants who were enraged by cigarette and e-cigarette ads raised from 39% to 49% (p=0.001) and from 30% to 46% (p=0.003), respectively.

Conclusion: Most participants demonstrated poor AdLit towards cigarette/e-cigarette. Mini-TSTP could be the solution as it is feasible and effective in improving AdLit among teenage orphans.

Keywords: Cigarette, E-cigarette, Teenagers, Advertisement, Orphan

MISCL 41

Survival Analysis of Neonates with Abdominal Wall Defects in a Tertiary Referral Hospital: A Comparison Between Two Time Periods

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Background: Congenital abdominal wall defects (AWD), such as gastroschisis and omphalocele, are caused by embryonic development errors. These defects can be life-threatening for newborns, making it crucial to examine these patients' survival rates and whether an increase in time, also improves their survival.

Method: We analyzed medical records from 2012 to 2019 by selecting patients through purposive sampling. Inclusion criteria are newborns aged 0 to 30 days, diagnosed with AWD at Harapan Kita National Centre for Women and Children's Health. We proceeded with survival analysis using cox-regression multivariate analysis to assess survival rates and compare survivability between two time periods, the first one from 2012-2015, and the second period from 2016-2019.

Results: The study involved 134 subjects, 84 were diagnosed with omphalocele and 50 with gastroschisis. The mean survival duration for AWD in the first period was 5.6 ± 4.9 days and 9.7 ± 8.4 days in the second period. When further stratified by their diagnosis, gastroschisis, and omphalocele, the mean survival duration for omphalocele in the first period was 4.05 ± 2.9 days and the second period was 5.43 ± 4.58. As for gastroschisis, the mean survival duration in the first period was 4.93 ± 3.49, and in the second period was 7.53 ± 3.22. On cox regression multivariate analysis, the factors that affected survival for AWD were preterm gestational age (HR: 2.03), low birth weight (HR: 2.2), chromosomal abnormalities (HR: 3.8), and operative management (HR: 0.5).

Conclusion: An increase in survival duration can be observed when comparing the year 2012-2015 vs 2016-2019 periods, proving that an improvement in the overall management algorithm of abdominal wall defects improves the outcome of its patient.

MISCL 42

Vitamin D Level in Healthy Newborn and NICU Babies

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Background: Role of vitamin D is very essential in many aspects especially the important part of immunity. Vitamin D deficiency (VDD) associated with acute and chronic disease. We wish to evaluate if there is any difference in newborns with clinical problems requiring neonatal intensive care and in healthy newborns.

Methodology: This cross sectional study was conducted in 173 infants. We measured serum 25-hydroxyvitamin D [25(OH)D] levels of the healthy newborn babies and babies who had problems requiring intensive care between June 2020 and May 2023. Measurement was done on day 2 or 3 after birth irrespective of birthweight, gestational period, and methods of birth. Normal vitamin D level is ≥ 30 ng/mL.

Results: We recruited 82 newborn babies who required NICU; 5 of them had normal vitamin D level and 91 newborn babies who did not require NICU; 9 of them had normal vitamin D level (p=0,361). When measured the means vitamin D level of both groups, those who required NICU vs non-NICU were 16,45 ng/mL (SD 8,14) vs 17,51 ng/mL (SD 8,77), CI (-1,49- 3,51).

Conclusion: Most of newborn babies have low vitamin D level. There is no significant difference between healthy or NICU babies vitamin D level. Personalized vitamin D supplementation should be added in newborn babies.

Keywords: Vitamin D, healthy, NICU, newborn babies

RES 10

Diagnostic Value of Bedside Flexible Fiberoptic Bronchoscopy in Children with Congenital Heart Disease

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Background : Major airway obstruction may complicate the natural and surgical history of children with congenital heart disease. Tracheal or bronchial obstruction, or both, may occur before, during, or after surgery for the surgical repair of congenital heart disease. This study aimed to describe bedside flexible fiberoptic bronchoscopy findings in children with congenital heart disease.

Methodology : We assessed the spectrum of airway disorders in children with congenital heart disease who presented with either clinical or radiological signs of airway obstruction. The clinical records and flexible bronchoscopic findings of patients admitted to the Children's Cardiac Intensive Care Units (CICU) between January 2017 and July 2023 were reviewed. Flexible bronchoscopic assessment was performed bedside with the patients under sedation, utilizing either an Olympus BF-P190 or Olympus BF-XP190 bronchoscope.

Results : This retrospective analysis includes 38 children, with 24 cases who had been operated. Intraluminal findings in 20 (52.63%) children showed 1 with bronchomalacia, 4 with tracheomalacia, 2 with tracheobronchomalacia, 2 with bronchial mucous hypersecretion, 6 with bronchitis, and 5 with tracheobronchitis. All other 18 (47.36%) children showed airway obstruction by external compression. In 18 showed external compressions, 2 were tracheal compression, 11 were bronchial compression, 3 were bronchial and lobar compression, and 2 were lobar compression. Airway obstruction by external compression with cardiovascular structure was frequently detected in connection with VSD (8 of 18, 44.4%), especially when VSD was coupled with TGA, pulmonary valve atresia, or cardiac decompensation.

Conclusion : Bedside flexible fiberoptic bronchoscopy emerges as a valuable diagnostic adjunct in children with congenital heart disease, offering real-time visualization of airway anatomy and associated abnormalities.

Keywords: flexible bronchoscopy, congenital heart disease, airway obstruction, tracheomalacia

RES 23

TNF-α Level to Predict Outcome Of COVID-19 in Children

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Background: COVID-19 is a respiratory infection caused by coronavirus. Acute respiratory distress syndrome occurs as a result of an acute systemic inflammatory response caused by a cytokine storm which is indicated by an excessive TNF-α circulation in COVID-19 patients. This study aims to analyze TNF-α Level to Predict Outcome Of COVID-19 in Children

Methodology: This method used was prospective cohort study from March 2022 to October 2022 in pediatric patients with COVID-19 that had been confirmed positive through PR test (RNA-SARS-CoV-2 detected) aged one month to 18 years. Bivariate and multivariate analyses were conducted to show the relationship between TNF-α level as the predictors of outcomes for COVID-19 patients in children.

Result: The results show that there is a correlation between the outcomes of COVID-19 patients in children and TNF-α with a p value <0.05. The results of statistical test show that TNF-α level ≥ 68 44 pg/ml is a predictor value for the outcome of COVID-19 patients in children with an odds ratio (OR) of 81 with IK 95% 19.468-337.010.

Conclusion: TNF-α level is a predictor of outcome for COVID-19 patients in children. TNF-α level ≥ 68 44 pg/ml is a predictor value for the outcome of COVID-19 patients in children

Keyword: COVID-19, TNF-α , Outcome

RES 32

Ten-Year Experience of Flexible Bronchoscopy Findings in Down Syndrome Children with Severe Pneumonia in a National Tertiary Referral Hospital

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Background : Pneumonia is one of the most common diseases with mortality and morbidity in children with Down syndrome (DS). There are many factors that cause pneumonia in DS children to take longer and be more difficult to treat, one of which is problem with airway abnormalities. This study aims to describe the findings of flexible bronchoscopy (FB) in children with DS who were treated for severe and/or recurrent pneumonia.

Methodology : This is a cross sectional study on FB procedure in DS children with severe respiratory distress symptom admitted from 1st January 2013 to 31st January 2023. We performed the procedures by using Olympus BF XP 160 and Olympus BF XP 190. Indications for FB performed were severe and recurrent pneumonia.

Results : From 905 patients with severe pneumonia, 105 DS patients were found with 96.19% having airway abnormalities (101/105). There were 52 male and 53 female in DS patients. Most of the airway abnormalities were laryngomalacia (70.47%), bronchial stenosis (11.42%) and laryngotracheomalacia (8.57%). Only 3.8% (4/105) of the patients had a normal airway. A total of 18% (19/105) patients had multiple airway abnormalities (more than 2 abnormalities). Cardiologic abnormalities of congenital heart disease were found in 84.76% of all DS patients.

Conclusion : Down syndrome children with severe and recurrent pneumonia have a higher incidence of airway abnormalities. Flexible bronchoscopy is the most important procedure to establish the diagnosis.

Keywords : airway abnormalities, down syndrome, bronchoscopy

RES 34

INFINIA-1*: Diagnostic and Prognostic Performance of C-Reactive Protein, Neutrophil-Lymphocyte Count Ratio, and Procalcitonin in Children with Pneumonia

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Background: Pneumonia is a significant public health problem with 16% mortality among children under five globally. Biomarkers that correlate with the presence and extent of bacterial infections may provide helpful information to assist therapeutic decisions. C-reactive protein (CRP), neutrophil-lymphocyte count ratio (NLCR), and procalcitonin (PCT) are widely used as diagnostic and prognostic markers of infection. This sudy aims to evaluate the performance of CRP, NLCR, and PCT at admission in diagnosing bacterial pneumonia and predicting in-hospital mortality and length-of-stay in children with pneumonia.

Methods : We conducted retrospective cohort study in children aged one month to five years old. Before antibiotic administration, we recorded patients' characteristics and biomarkers values. Correlation analysis was conducted using the Spearman correlation test. The prognostic performances were compared using the area under the receiver operating characteristic curve (AUC).

Results: Eighty-eight patients were included in the study. CRP value had significant, positive correlation to PCT ($r=0.74$; $P<0.005$). For diagnosis of bacterial pneumonia based on culture results, the AUC for CRP (0.60) was comparable to the AUCs for PCT (0.53) and NLCR (0.58). ROC analysis with combined CRP cut-off values of 8 mg/dL and NLCR 0.7 obtained a sensitivity of 100 % and specificity of 62.35 %. In predicting in-hospital mortality and length-of-stay, the AUC for CRP was comparable to PCT and NLCR.

Conclusion: The CRP is directly proportional to PCT in children with pneumonia. Combinations of CRP and NLCR can improve the diagnosis of bacterial pneumonia in children. In determining prognosis, CRP, NLCR, and PCT exhibit equivalent performance.

Keywords: C-reactive protein, procalcitonin, neutrophil-lymphocyte count ratio, pneumonia, children

*Infection Marker in Children with Pneumonia-1st Study

RES 55

Polysomnographic Profile in Children with Obstructive Sleep Apnea Syndrome at Dr Mohammad Hoesin Hospital Palembang

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Background: Untreated obstructive sleep apnea syndrome (OSAS) is associated with behavioral problems, neurocognitive disabilities, poor school performance, hypertension, and failure to thrive. The aim of this study is to describe the polysomnographic profile of pediatric patients with OSAS at Dr Mohammad Hoesin Hospital Palembang.
Methodology: A retrospective study was conducted at Dr Mohammad Hoesin Hospital Palembang. All patients presenting with symptoms of OSAS between January 2020 and December 2023 were included in this study. Clinical data including the result of polysomnography (PSG) were collected from medical records and classified as mild, moderate, or severe if the apnea hypopnea index (AHI) scores obtained by PSG were 1-<5, 5-<10, or >10 respectively.

Results: Thirty-nine patients were eligible for the study. Most patients were male (30/39). The median age was 8.11 years (range 2-17 years), with the majority of the children aged ≤ 10 years. Chronic tonsillitis was the most common diagnosis (23/39) for PSG referrals, followed by adenoid hypertrophy (12/39). Sixteen of the 39 patients were obese, while 6/39 were overweight. There was a higher proportion of children with obesity with moderate to severe OSAS based on AHI scores (OR 2.3; 95% CI 0.57-9.36), however the difference was not statistically significant (p = 0.237). The PSG results showed 10, 10, and 19 patients with mild, moderate, and severe OSAS, respectively.

Conclusion: Children with obesity have a higher proportion of more severe OSAS based on PSG, but no statistically significant association was found. Polysomnography should be performed on any child suspected with OSAS.

Keywords: OSAS, Obesity, Polysomnography.

Res-2-03

Clinical Spectrum of Adolescent Tuberculosis at Dr. M.Djamil Third Level Hospital

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Background : Tuberculosis (TB) among adolescent often appear as diverse clinical manifestation. This study aimed to show the clinical spectrum of tuberculosis among adolescent at M.Djamil the third level Hospital in Padang.

Methodology : We performed descriptive retrospective study, from medical record and SITB platform (TB software system). Age, gender, referral base area, history of TB contact, classification of TB and nutritional status were recorded.

Result : There were 67 TB cases among adolescent, 2021- July 2023. Most of them were 16-18 years old and 58.2% were male. About 41.8% reffered from Padang city, West Sumatera, whereas we also found many refferal cases from North Sumatera (10.4%). We found 48.8% were undernourish, however there were overweight (1.5%) and obese (3%). Only 41.8% of them had knowing contact with adult TB. About 52,2% were pulmonary TB, followed by bone TB 46,9% of total extrapulmonary tuberculosis. Bacteriological confirmation from sputum were found in 44.8%, with 4/67 were rifampicin drug resistance. Multidrug resistant tuberculosis in adolescent always occur every year, with an incidence of around 5.9% during the past 2.5 years. Most of them completed the treatment regimen, however 3.6% not completed and death 12%.

Conclusion : Adolescent TB showed the balance spectrum between pulmonary and extrapulmonary.

Keywords: adolescent tuberculosis, pulmonary, extrapulmonary

E-POSTER PRESENTATION

CAR 45

Correlation between Type of Congenital Heart Disease and Nutritional Status

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Objective: Children with Congenital Heart Disease (CHD) are susceptible to experience inadequate growth and undernourishment in comparison to their healthy counterparts. The Objective of this study was to evaluate the nutritional status of children with CHD and the type of CHD they possess.

METHODS: Institutional based cross-sectional study among 45 children aged 3-24 months was conducted from June to July 2023 at Dr. Soetomo Hospital Surabaya. Data was collected using structured questionnaire. Anthropometric z-scores based on WHO 2007 reference ranges were generated for each child. Weight-for-age, length-for-age, and weight-for-length z-scores were evaluated for all children. Binary logistic regression was used for associated factors.

RESULT: Male patients accounted for 31 individuals, constituting 68.9% of the total sample. Furthermore, 34 patients (75.6%) were aged over 6 months, while 31 patients (68.9%) were diagnosed with acyanotic CHD. 53.3% of total sample was underweight and severely underweight. The percentage of patients with stunted and severely stunted was 48.9% out of all samples. More than half of the sample (53.3%) patients had normal weight-for-length z-scores. There is no correlation between the type of CHD with nutritional status of the patients ($P>0.05$).

Conclusion: Both cyanotic and acyanotic heart disease have the same impact in nutritional status of patients with CHD.

KEYWORDS: Congenital Heart Disease; Growth Failure, Anthropometry, Children, Nutritional status

CAR 48

Hemolysis Post Transcutaneous Closure of Patent Ductus Arteriosus and Mild Malnutrition in A Child: A Case Report

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Background: Congenital Heart disease can be found by a variety of lesion which cause intracardiac shunts. One of the most common left to right shunts are patent ductus arteriosus (PDA). A PDA can result in blood flowing from the descending aorta across the patent ductus arteriosus into the pulmonary circulation ("left-to-right"). Transcatheter closure of PDA has become a standard procedure in every cardiology center around the world. Hemolysis is a well-known though uncommon complication of transcatheter closure of PDA. Hemolysis after percutaneous closure of PDA is always associated with the presence of residual ductal flow, and the likely mechanism of hemolysis is high velocity turbulent blood flow past the ductal device producing mechanical fragmentation of erythrocytes.

Case: We present a Case of a 7 years 4 months old boy who presented with chief complain of often getting tired. His actual body-weight is 17 kg and body-height 115 cm. Patient had been diagnosed with PDA before and scheduled for transcutaneous closure. After the procedure, the patient experienced hematuria. Using urinalysis, we found protein +2 and blood/erythrocyte +5/5-8 and blood analysis Hb 9.5 g/dL. He was diagnosed with hematuria et causa hemolysis post transcutaneous closure of patent ductus arteriosus and mild malnutritional status. He was given treatment IVFD D5, Ondansetron injection, oral Propranolol, and Hydrocortisone injection. He was also given solid food 350 kcal three times a day and snacks 150 kcal two times a day. Urine was collected for evaluation. Vital signs, fluid balance, and diuresis were measured every four hours.

Conclusion: This Case illustrates the importance of prompt recognition and treatment of sequelae of transcutaneous closure of PDA

Keywords: Hemolysis, PDA, Transcutaneous Closure, Complication of transcatheter closure, Hematuria

CAR 28

Clinical Characteristics and Outcome of Heart Disease in Children with Neurological Complication

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Background. Neurological complications of heart disease contribute in increasing mortality and morbidity rate in children. Children who came with neurological complication represent late presentation of heart disease and related to poor prognosis. Our study aimed to identify clinical characteristics and outcome of heart disease in children with neurological complication. Methodology. A cross-sectional study was conducted in Hasan Sadikin General Hospital Bandung using secondary data from January 2018–June 2023. Demographic and clinical characteristic data were collected. Descriptive results for categorical variables are described as number and percentage.

Results. Of total 37 children with heart disease had neurological complication, 35 were congenital and 2 were acquired. There was no difference in gender with mean age 5,3±3,2 years. Tetralogy of Fallot was the most common underlying disease (32,4%) and brain abscess was the most common complication (75,6%). Four of them had neurological complication after following 4 percutaneous interventions consist of 2 transcatheter ventricular septal defect closure, 1 transcatheter patent ductus arteriosus closure, and 1 critical valvular pulmonary stenosis post percutaneous balloon valvuloplasty. Two of them had intracerebral haemorrhage, one with infarct, and last one with epilepsy as a complication. Neurological complication has poor prognosis with mortality rate 24,3% in this study. Conclusions. Neurological complication in children with heart disease is a challenging for clinicians. The foresight of the clinicians to carry out holistic examination, prevention, early diagnosed, and prompt treatment needed to decrease morbidity and mortality rate.

Keywords. Brain Abscess, Children, Heart Disease, Neurological Complication, Tetralogy of Fallot

CAR 44

Neurological Manifestation of Rheumatic Fever in Children: What We Should Monitoring?

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Background Sydenham chorea (SC) is neurological manifestation in rheumatic fever (RF). The condition occurs after infection with group A streptococcus. SC one of major criteria RF. Recurrence Insidents SC around 42% and persistence 4%. Monitoring is necessary to recovery and prevent both of incidents.

Case A 10 years old boy came to Zainoel Abidin Hospital complaints of uncoordinated spontaneous movement such as jerking, rapid movement of both hands, legs, eyes, mouth, difficult to walk and slurred speech since 2 weeks. Physical examination is consciousness, normal interaction and vital signs. Motor strength, Pathological and physiological reflex normal. Patient has history of intermittent fever since 6 months and getting tired easy. Hearth physical examination result systolic murmur in intercostal midclavicular line V. Laboratory results infection *group A streptococcus beta hemolyticus* with titer 400 U/Ml. Electrocardiography result prolong PR interval 0'20 seconds. Echocardiography result mitral regurgitation. Patient was treated with oral valproic acid 20 mg/kgbb and benzathine penicillin G 1.2 million intramuscular every 28 days till 10 years.

Conclusion SC occurs cause of underlying disease. Prognosis generally complete recovery in most Cases. Symptomp resolve in 1–6 months. So we should monitoring streptococcus infection, cardiac involvement and adherence treatment penicillin G intramuscular prophylaxis every 28 days with duration of treatment depend on cardiac involvement . Antipsychotic, anticonvulsant are options for symptomatic SC . Steroids being the most frequently therapy, if symptomps failed with SC symptomatic treatment.

Keywords: Chorea Sydenham, Rheumatic fever, Monitoring.

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ATTACHMENT

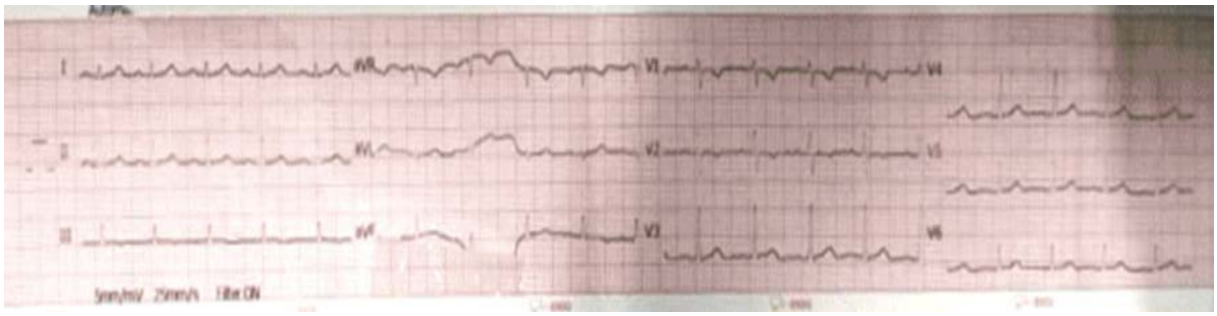
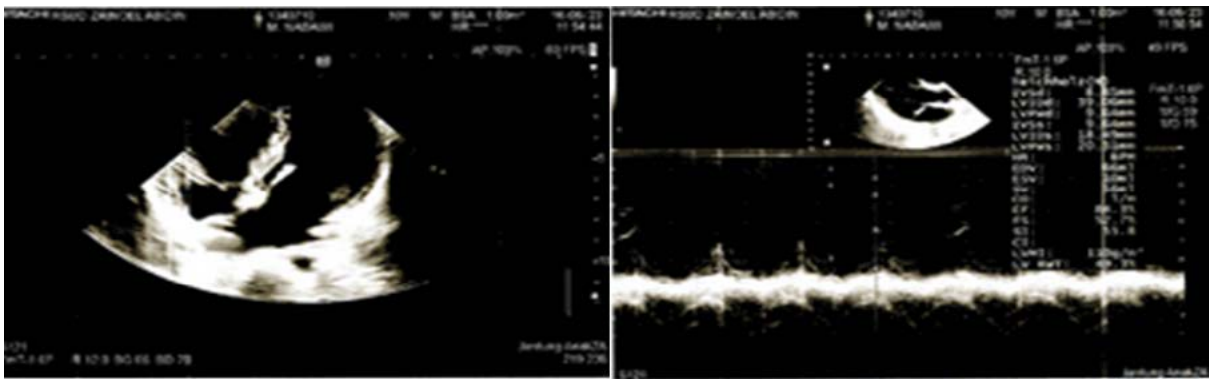


Figure 1. Electrocardiography : Lenghtening interval PR 0'20 seconds.

Figure 2. Echocardiography : Mitral Regurgitation



CAR 47

Supraventricular Tachycardia Unresponsive to Vagal Maneuver and Antiarrhythmic in Infant: Case Report

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Background: Supraventricular tachycardia (SVT) is a rapid, regular rhythm that often appears abruptly and may be episodic, usually 220/min or greater in infants. The incidence of SVT is approximately 1-3 Cases per 1,000 persons, with a prevalence of 0.2%. More than half of unrecognized and untreated SVT will develop to congestive heart failure in at least 48 hours.

Case: A 5-month-old boy presented to the ER with referral letter from pediatrician with bronchopneumonia (BP) and tachycardia. The parents complained of poor feeding and shortness of breath since 1 night before admission, and was accompanied by fever and a nagging cough since 2 days before admission. The patient presented with HR 270-298/min, RR 60/min, SpO_2 78 % room air, nasal flaring, visible respiratory-muscle use, pulmonary rales, and hepatomegaly. The supporting examination showed normal electrolytes, ECG showed SVT, CXR showed BP, and echocardiography showed ASD-PFO. The patient was given oxygen supplementation, IV-line access, and antibiotics. Vagal maneuver was performed but unresponsive, then given amiodarone bolus continued with maintenance dose but still unresponsive, and finally cardioversion was performed. After cardioversion, vital signs showed HR 130-140/min, RR 40/min, SpO_2 97-98% with 2 lpm with minimal substernal retractions. There was a slight increase in troponin I level after cardioversion, suspected to be due to cardioversion-induced damage, and the ECG showed sinus rhythm. The final diagnose was SVT with BP, ASD, PFO and acute myocarditis after cardioversion. Then the patient was observed and continued therapy in the PICU.

Conclusion: There are often misdiagnoses in pediatric patients with tachycardia and tachypnea that are often interpreted as respiratory problems, but there can be cardiac problems or a combination of both. Early recognition and prompt treatment will reduce associated morbidity and mortality.

Keywords: bronchopneumonia, cardioversion, congenital heart defect, supraventricular tachycardia

CAR 52

Outcomes in Nutritional Status after Transcatheter Closure Procedure in Children with Congenital Heart Disease : A Prospective Cohort Study

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Background
Children with congenital heart disease (CHD) are susceptible to malnutrition, it can happen caused by increased demand of energy, inadequate caloric intake, or fluid restriction. The nutritional status may pose a great burden for health because it affects immune modulation and growth of the children. The aim of this study is to investigate outcomes in nutritional status after transcatheter closure in children with CHD.

Methodology
A prospective cohort study was performed in 169 children at age 3th – 8th years old in Kandou Hospital. To determine the CHD, we perform echocardiography examination while for nutritional status we define from WHO curve for children under 5 years old and CDC curve for children above 5 years old. Statistical analysis using chi square with p value < 0.05 considered being significant and odds ratio > 1 considered have causal effect.

Results
Among 169 children with CHD, there are 93 children (55%) that experience moderate malnutritional status and 27 children (16%) had severe malnutrition status. There is a significant positive relationship between children with CHD and incidence of malnutrition (p=0.0038; OR 4.72). After transcatheter closure procedure in children, they develop improvement in nutritional status (p=0.0006; OR=2.69). Children with malnourished nutritional status develop more infection rate 38% (p=0.0024; OR=2.17) compared to well-nourish children and had longer staying period 22% (p=0.004; OR=1.75) rather than well-nourish children.

Conclusion
Malnutrition is commonest complication for children with CHD caused by multiple reasons. Prompt treatment to CHD children with malnourish nutritional status are required to improve overall health of the children.

Keywords: congenital heart disease, nutritional status

CAR 11

GATA6 Protein in the Pathogenesis of Ventricular Septal Defect: A Bioinformatics and Non-synonymous Single Nucleotide Polymorphism Analysis

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Background: Approximately 1.2% of live births are diagnosed with congenital heart disease (CHD), which accounts for 3.9 deaths per 100,000 population worldwide. Among these Cases, ventricular septal defect (VSD) is the most common lesion. This study aims to identify the potential role of the GATA6 as one of the etiological factors behind VSD.

Methodology: This study utilized an in silico approach, which include collecting and selecting data from the DisGeNET and GeneCards databases, constructing protein-protein interaction networks through the STRING webserver and Cytoscape software, and conducting Gene Ontology and pathway enrichment analyses using the DAVID webserver. Data analysis was carried out using the R system, with a significance FDR p-value of <0.05. For the target gene, information was gathered from the NCBI dbSNP webserver, and the impact of the nsSNP on the amino acid structure was predicted using SIFT, PolyPhen-2, I-Mutant 2.0, SNP&GO, and Yasara Dynamics Software.

Results: We observed an intersection of 87 genes, and out of the 16 proteins interconnected with the GATA6 protein, the highest closeness centrality value was 0.4378. Gene ontology testing of biological process parameters, cellular components, and molecular function revealed the highest FDR values for atrioventricular canal development, protein-DNA complexes, and transcription factor regulatory processes. Analysis of the nsSNP demonstrated that rs387906814 and rs387906815 achieved the highest scores and exhibited the potential to cause VSD due to alterations in the amino acid structure.

Conclusion: The GATA6 protein plays an important role in the protein-protein interaction network and has the potential to cause VSD.

Keywords: *GATA6, Gene Ontology, In Silico, nsSNP, VSD*

CAR 29

Short Term Outcomes in A Child with Double Outlet Right Ventricle Post-Fontan Procedure: A Case Report

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Background:
Double outlet right ventricle (DORV) is characterized by arousal of the aorta and the pulmonary vessel from the right ventricle, which resulted in cyanotic condition and other complication such as failure to thrive and heart failure. Fontan procedure has been widely accepted for children with DORV and single ventricle physiology and guarantees survival rates of approximately 80% at age 20 years. Fontan procedure is a palliative surgery, monitoring of its complication remains important.

Case:
A 10 years-old boy with Fontan circulation, born from low socio-economic status and remote from health facility, he was diagnosed with dextrocardia, DORV-Taussig-Bing Type at 5 months of age. His SpO_2 was 60-65% and suffered from failure to thrive, WAZ and HAZ was < – 3 SD, gross motoric delayed and PedsQL 78%. At 5 years-old, the patient had a successful Bidirectional Cavo-Pulmonary Shunt (BCPS) procedure and at 7 years-old had a Fontan procedure. His postoperative course was uneventful. Now, his SpO_2 was 90-96%, not suffered from any cardiac event, WAZ and HAZ are both between -2 and -3 SD, no developmental delay, PedsQL 96%, can attend school with minor physical limitation.

Conclusion:
Short term evaluation of a child with dextrocardia, DORV-Taussig-Bing Type 3 years after Fontan Procedure showed good outcome in growth, development, and quality of life. Further long-term monitoring is important to prevent Fontan complication.

Keywords: *Development monitoring, DORV, Fontan procedure, growth monitoring, quality of life*

CAR 41

Pulmonary Atresia with Intact Ventricular Septum: A Nightmare in Neonatal Intensive Care Unit

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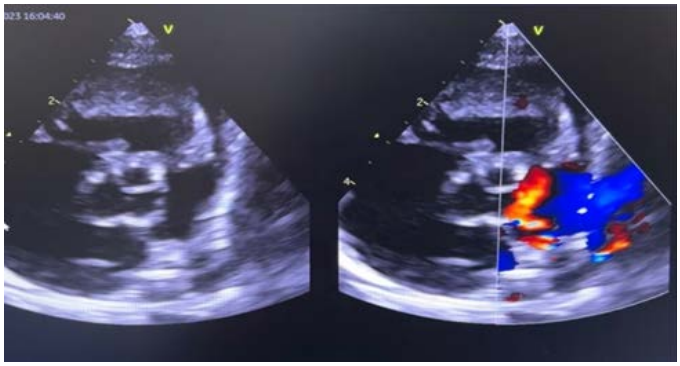
Background: Pulmonary atresia (PA) is a heart defect present at birth usually diagnosed soon after birth. The incidence of Pulmonary atresia was about 9.6% of all congenital heart defect. Babies with pulmonary atresia need immediate treatment which may include medications and one or more procedures or surgeries.

Case: Newborn term-baby girl was consulted by Consultant Neonatal Intensive Care to Cardiologist due to desaturation since birth. The mother had a delivery by C-section due to high-risk pregnancy (multipara and the mother was 40 years old). From the clinical examination were found continuous murmur at LUSB with pansystolic murmur grade III/VI at LLSB. Other physical findings were unremarkable. Chest x-ray showed cardiomegaly. Echocardiography showed Pulmonary atresia with intact ventricular septum, 3 mm PDA and moderate tricuspid regurgitation with right ventricular hypertrophy. We administrated prostaglandin E1 to keep the ductus arteriosus open. We also took off the oxygen supplementation and the baby saturation were stable between 75-85%. We also look for referral hospital with advance cardiac pediatric care to manage this patient. In the 4th days of hospitalization, the baby finally referred to another hospital and then performed balloon pulmonary valvulotomy. Unfortunately, in a 7th day of hospitalization, the baby was passed away due to multi-organ failure.

Conclusion: Recognizing the cardiac defects by physical examination, chest x-ray and echocardiography are mandatory in baby with suspected congenital heart disease. Prostaglandin drip with procedures or surgery is a mandatory management in PA-IVS patient.

Keywords: Congenital Heart Disease, Pulmonary Atresia, Ductus Arteriosus, Neonates, Intact Ventricular Septum.



Picture 1. (a) Echocardiography showed “no flow” from RV to PA with Ductus Arteriosus. (b) Echocardiography showed intact ventricular septum with Tricuspid Regurgitation.

CAR 36

Role of Echocardiography in Diagnosing Persistent Pulmonary Hypertension of the Newborn (PPHN): A Case Report

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Background/Objective: PPHN remains a challenging problem in neonates. It is characterized by elevated pulmonary vascular resistance, resulting in right-to-left shunting of blood and hypoxemia. It is often secondary to parenchymal lung disease and mostly seen in term infants. Congenital pneumonia cause delayed or impaired relaxation of the pulmonary artery. The diagnosis is based on clinical evidence of labile hypoxemia and confirmed by echocardiography. This Case report is aimed to determine the role of echocardiography in diagnosing PPHN.

Case: A day one of life baby was suffered from congenital pneumonia requiring nasal CPAP. She was born full term via elective cesarean section with Apgar score of 8 and 9. Her birth weight was 3,300 grams. Antenatally, there was history of gestational diabetes mellitus on diet control. She was tachypneic at one hour after delivery. A slightly increased opacity on both lungs was found in chest x-ray. There were leucocytosis and increased CRP. Due to worsening respiratory distress, intubation and mechanical ventilation was started. Hypoxemia persisted with oxygen saturation of 58-70% even though on high setting ventilator. Findings on echocardiography were persistent foramen ovale with right to left shunt, dilated right ventricle with tricuspid regurgitation, and pulmonary regurgitation. We administered MgSO4 and sildenafil with inotropes and then patient showed some improvement. We are able to extubate her on day 8 and discharged her on day 16 of treatment.

Conclusion: Echocardiography plays an important role in diagnosing PPHN. It should be performed immediately to prevent delay in the diagnosis and management.

Keywords: PPHN, echocardiography, right to left shunt, dilated right ventricle, pulmonary regurgitation

CAR 39

The Association of Red Cell Distribution Width and N-terminal Pro-B-type Natriuretic Peptide with Defect Size of Acyanotic Congenital Heart Disease

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Background/Objective: Red cell distribution width (RDW) and N-terminal pro-B-type natriuretic peptide (NT-proBNP) have been proposed to play role in morbidity of cardiovascular diseases. However, their roles in cardiac defect size have not been widely explored. Therefore, we investigated the association of RDW and NT-proBNP with cardiac defect size in acyanotic congenital heart disease (ACHD).

Methodology: A cross-sectional study was conducted in children undergoing cardiac catheterization in Dr. Moewardi hospital, Surakarta from June to July 2023. Cardiac defects were categorized based on their size. Red cell distribution width and NT-proBNP values were categorized into elevated and normal. Chi-square test was applied to analyze the association of RDW and NT-proBNP with the size of the cardiac defect. The significance level was set at $p<0.05$.

Results: Twelve patients diagnosed with ACHD were included in the study. Most of them are female (66.7%) with a mean age of 4.5±0.8 years. Small, medium, and large defects were found in 16.7%, 25%, and 58.3% of subjects, respectively. The mean values of RDW and NT-proBNP were 15±0.5% and 1826.42±3606.30 pg/ml, respectively. A Chi-square test obtained insignificant association between RDW ($p=0.076$) as well as NT-proBNP levels ($p=0.236$) and cardiac defect size.

Conclusion: In this study, RDW and NT-proBNP levels have no association with the size of cardiac defects. Further study with larger sample size is required to support our finding.

KEYWORD: acyanotic congenital heart disease, defect size, red cell distribution width, N-terminal pro-B-type natriuretic peptide

CAR 40

Ejection Fraction Value of ALL Patients on Anthracycline Chemotherapy in dr. Moewardi Hospital Surakarta

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Background : Ejection fraction (EF) is one of the most frequently used cardiac function parameters in evaluating the cardiotoxic effect of a medication. Anthracyclines are a group of antineoplastic drugs which have cardiotoxicity. Aim of the study to determine cardiotoxic effect of anthracycline chemotherapy on ALL children observed on ejection fraction (EF).

Methodology : A cross-sectional study was conducted in children with ALL receiving anthracycline chemotherapy in dr. Moewardi Hospital Surakarta between January 2023 and June 2023. Echocardiography was performed in all subjects. The correlation analysis used Spearman Rank Test, and $p < 0.05$ was considered significant.

Results : Total of 20 subjects included in the study, who were dominated by female (n = 12 ; 60%). The mean cumulative dose of anthracycline was 127.41 mg, The mean EF (%) was 66.41%. Spearman Rank Test obtained that the cumulative dose had negative significant correlation with EF (r = -0,792 ; p =< 0.001).

Conclusion : The dose cummulative anthracycline chemotherapy significantly worsened on EF (%) of ALL children. The higher the dose is, the lower the EF (%) value is.

Keyword : Ejection Fraction, Anthracycline, ALL

CAR 46

Diagnostic Approach of An Infant with Respiratory Distress and Hypoplastic Descending Aorta : A Case Report From Tertiary Referral Hospital

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Background : Coarctation of the aorta (CoA) is a critical congenital heart defect characterized by narrowing of the aorta. The hypoplastic descending aorta could be found in CoA. It develops instability hemodynamic due to blood flow obstruction to lower body part. It is important to recognize signs and symptoms such as respiratory distress due to airway compression.

Case REPORT : A 2-month baby girl with body weight 2600 grams was referred to our hospital with tachypnea and poor breastfeeding in the first month of life. There was no history of illness in the mother during pregnancy. Physical examination showed irritable, chest retraction, puffy eye lids, weak pulse in the femoral artery and blood pressure in the right arm is higher than in legs. Chest auscultation results were ronchi, continuous and pansystolic murmur. Chest X-Ray showed cardiomegaly, left upper lobe atelectasis and prominent pulmonary conus. Echocardiography revealed a severe CoA with hypoplastic isthmus, ventricular septal defect, patent ductus arteriosus and dilated main pulmonary artery (MPA) with normal aortic valve. Multisliced Computed Tomography (MSCT) needs to evaluate extracardiac vessels and airway compression. Bronchoscopy revealed stenosis of left main bronchi. We gave antibiotic and diuretic, but no significant improvement. The respiratory effort and oxygen saturation were improving with prone position. She was scheduled for a surgical procedure.

Conclusion : Airway obstruction could happen in hypoplastic aorta due to dilated MPA. MSCT was superior to delineate aortic arch and its adjacent airway. Management of prone position was the best strategies in this particular Case.

Keyword : Coarctation of the aorta, hypoplastic aorta, airway compression

CAR 08

A Rare and Challenging Refractory Neonatal Supraventricular Tachycardia with Respiratory Distress Syndrome

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Objective: Supraventricular tachycardia (SVT) is the most common arrhythmia in neonates. This condition may cause hemodynamic instability and lead to life-threatening conditions.

Case: A 33-week-baby boy weighed 2155 gram was delivered by emergency caesarean delivery because of fetal SVT diagnosed by prenatal ultrasound. Upon initial resuscitation, the heart rate was 190-210 beats per minute (bpm), with grunting and respiratory distress. CPAP was initially given, but the respiratory distress worsened. The baby delivered to NICU with NIPPV 25/5 rate 60 and FiO2 40%. During evaluation, tachycardia increased up to 250-280 bpm and blood gas analysis showed respiratory acidosis. The echocardiogram showed no P wave with narrow QRS complex, consistent with SVT. Respiratory distress syndrome (RDS) grade 1 was found in chest X-Ray. Intubation was performed and the baby was connected to conventional mechanical ventilation. Adenosine was administered three times, continued with loading dose amiodarone 25 mcg/kg/minute for 4 hour, followed by maintenance dose of 15 mcg/kg/minute, but the SVT persisted. Subsequently, cardioversion 1-3 Joule per kg body weight was performed, but showed no response. Intravenous digoxin was finally given to the baby, the serial ECG showed sinus tachycardia with decrease rate overtime. Following the recovery of the SVT, ventilation also dramatically improved and the baby was extubated. The intravenous treatment was stopped and maintained with oral bisoprolol. The baby discharged after 9-day of hospitalization

Conclusion: SVT should be ruled out in baby with extreme tachycardia. Differentiating between hemodynamically stable SVT or not is important to select appropriate treatment. Overall, the prognosis of SVT is excellent.

Keyword: Supraventricular tachycardia, neonatal, respiratory distress syndrome

CAR 10

Association Between Upgrading Device Size and Occurrence of Early Residuals VSD Post Transcatheter Closure in RS dr. Moewardi

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Background :
Ventricular Septal Defect (VSD) closure through transcatheterization medical procedure becomes a common method for VSD intervention in pediatric population. Selecting appropriate device size is crucial to achieve the successfull procedure. This study evaluated the relationship between upgrading device size and occurrence of early residuals VSD post transcatheter closure in pediatric with congenital heart disease (CHD).

Methods :
A cross-sectional study was conducted using the medical record data of pediatric patients with VSD undergoing transcatheter closure in dr. Moewardi Hospital from 2020 to 2022. The assosiation between upgrading device size and occurance of early residuals VSD post transcatheter closure was analyzed with multivariate analysis, and $p<0.05$ was considered statistically significant.

Result :
Sixty three subjects met the inclusion criteria. Early residuals VSD post transcatheter closure occurred in 6 subjects without upgrading device size, 10 subjects with upgrading device 1 grade higher, and 11 subjects with upgrading device 2 grade higher. The multivariate analysis obtained that upgrading device 1 grade higher (OR=5.625, 95%CI=1.465-21.608, p=0.012) and 2 grade higher (OR=9.274, 95%CI=2.263-37.999, p=0.002) significantly increased occurrence of early residuals VSD post transcatheter closure.

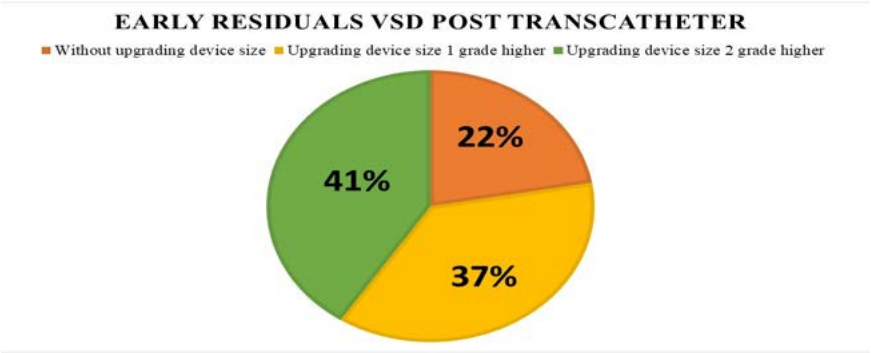

Table 1. Characteristic Subject of Early Residuals VSD Post Transcatheter Closure

		Total		Post Transcatheter Closure			
				Early Residual (-)		Early Residual (+)	
		(n=63)	%	(n=36)	%	(n=27)	%
Age	<5 th	36	57.1%	19	52.8%	17	63.0%
	>5 th	27	42.9%	17	47.2%	10	37.0%
Gender	Male	41	65.1%	24	66.7%	17	63.0%
	Female	22	34.9%	12	33.3%	10	37.0%
Nutritional Status	Goodnutrition	37	58.7%	22	61.1%	15	55.6%
	Malnutrition	26	41.3%	14	38.9%	12	44.4%
Device size	Without upgrading device size	30	47.6%	24	66.7%	6	22.2%
	Upgrading device size 1 grade higher	17	27.0%	7	19.4%	10	37.0%
	Upgrading device size 2 grade higher	16	25.4%	5	13.9%	11	40.7%

Table 2. Multivariate Analysis of Early Residuals VSD Post Transcatheter Closure

Parameter		Multivariat Analysis			
		OR	95%CI		p
			Lower	Upper	
Age	<5 th	Ref			
	>5 th	0.621	0.195	1.979	0.421
Sex	Male	Ref			
	Female	1.030	0.309	3.433	0.961
Nutritional Status	Goodnutrition	Ref			
	Malnutrition	1.253	0.383	4.096	0.709
Device size	Without upgrading	Ref			
	Upgrading device size 1 grade higher	5.626	1.465	21.608	0.012*
	Upgrading device size 2 grade higher	9.274	2.263	37.999	0.002*

*p<0.05 indicates a significant association

Conclusion:
Upgrading device size significantly relates to the occurance of early residuals VSD post transcatheter closure.

Keyword : pediatric, residuals, transcatheter closure, upgrading device size, VSD

CAR 26

Differences of Quality of Life on Children with Congenital Heart Disease Before and After Cardiac Interventions

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Background
Congenital Heart Disease (CHD) is the first cause of congenital malformations on 8 for 1000 births in the range of incidence. CHD, in most Cases, cause growth and development disorders, heart failure and several conditions which potentially lead to reductions of quality of life. This study was conducted to determine the differences of quality of life on children with CHD before and after cardiac intervention.

METHODS
This study was a retrospective cohort study. Data were taken from medical record of CHD patients in Hospital from 2017 to 2022. The subjects were ≤18 years old, diagnosed by CHD, and had received cardiac intervention either surgery or catheterization. Quality of life data collection ran with the PedsQL (Pediatric Quality of Life Inventory) ™ 3.0 Cardiac Module questionnaire.

Results
From 62 patients with CHD, there were 44 (71%) boys and 18 (2%) girls. The most common types of abnormalities were VSD (33,9%), PDA (24,2%), followed by ASD (14,5%). The nutritional status of most of the research samples was good (59,7%). The value of the quality of life of children according to parents before cardiac intervention increased from 63.13 ± 11.33 to 85.00 ± 12.02. The results of the analysis using Wilcoxon showed that there was a significant difference between the quality of life before and after cardiac intervention ($p<0.001$).

Conclusion
There are differences of the quality of life on children with CHD before and after intervention.

Keywords: congenital heart disease, quality of life

CAR 35

Tuberous Sclerosis Complex in a Newborn: A Rare Case

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Background: Tuberous sclerosis complex (TSC) is an inheritable disorder characterized by the formation of benign yet disorganized tumors in multiple organ systems, usually brain, skin, renal, cardiac, eye, and lung. Primary cardiac tumors are rare, with an incidence of 0.14%. The International TSC Consensus Group has established a guideline for the diagnosis, with at least one major and two minor criteria required to make a firm diagnosis of TSC. We reported a newborn with cardiac manifestations of TSC who had echocardiographic improvement after Everolimus therapy.

Case: A 25-day-old male newborn was admitted to the ER with respiratory distress, periodic apnea, and cyanosis. The newborn had been hospitalized at a different hospital for 17 days with respiratory distress syndrome and low birth weight. No murmur and no gallop was audible from auscultation. There were hypomelanotic macules but no Shagreen patch or angiofibroma. Chest X-ray was suggestive of pneumonia. Echocardiography revealed multiple solid masses in both ventricles, with the two most prominent lesions sized 10 mm x 11 mm and 13 mm x 6.9 mm. A moderate PDA (2.6 mm) and persistent foramen ovale were found. Head CT Scan showed multiple subependymal nodular calcifications. The newborn was given Everolimus 0.1 mg/day orally. After six weeks of therapy, a follow-up echocardiogram revealed that the mass in both ventricles had regressed.

Conclusion: TSC is a rare genetic disorder characterized by variable signs and symptoms that involves many organs. A low dose of Everolimus may be beneficial for the treatment of TSC.

Keywords: tuberous sclerosis complex, newborn, Everolimus

CAR 49

Supraventricular Tachycardia in Fetal and Neonate Caused by WPW Syndrome: a Case Report

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Rumah Sakit Anak dan Bunda Harapan, Faculty of Medicine University of Indonesia

Objective: Supraventricular tachycardia (SVT) management varies with each center and typically based on published Case series, gestational age, presence and degree of fetal compromise and hydrops. SVT associated with intrauterine and neonatal death.

Case: A 27-year-old woman, gestational age 31 weeks referred with fetal SVT. She was nulliparous and already treated with transplacental digoxin (2 x 0.25 mg) for 10 days without improvement previously. Thyroid function: normal and no infection found. Fetal echocardiography showed no pericardial effusion, ascites nor major structural abnormality and weight was 2400 gr (percentile > 99% or large gestational). Oral glucose tolerance test corresponded to gestational diabetes. She was consulted to pediatric cardiology and M-mode revealed SVT with 1:1 conduction heart rate (HR) of 220-240 bpm. Tissue Doppler imaging (TDI) showed 1:1 conduction HR of 231 bpm. OBG team then performed direct fetal intramuscular amiodarone and digoxin, resulted in sinus rhythm (SR) conversion sustained for 2 days. Early delivery was proceeded. Perinatal ECG: SR with WPW pattern or preexcitation consists of a short PR interval and prolonged QRS with initial slurring upstroke ("delta" wave). ECG reverted to normal after amiodarone and propranolol therapy. The baby now is 4 months of age only received amiodarone. ECG show SR with normal growth and development.

Conclusion: SVT is characterized by 1:1 conduction with presence of delta wave. Mechanism underlying WPW is an accessory pathway between atriums and ventricles. Fetal SVT continues to be a challenging entity as no universal standards for drug treatment.

Keyword: Fetal, Neonate SVT, WPW syndrome

CAR-2-02

Incomplete Atrioventricular Septal Defect (AVSD) with Dextrocardia in 4-months-old Infant : A Rare Case Finding in Peripheral Setting Area

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Objective

Congenital heart disease (CHD) is a congenital disorder that often occurs in neonates and is still a global burden. The prevalence worldwide is 8 out of 1000 live births, and one-fifth is AVSD. Dextrocardia is a rare condition. AVSD with dextrocardia is a very rare condition, so the data is minimal. The aim of this study is to emphasize the importance of early detection of CHD.

Case

A 4-month-old infant was referred from the clinic to the emergency ward with pneumonia. She often had recurrent coughs, dyspnea, and fever since she was one month old and had worsened for three days. She was often interrupted while breastfeeding and had poor weight gain.

Physical examination found nasal flaring and subcostal retractions, no cyanosis at the lips, mucosa, and extremities. We found rhonchi in both lungs and systolic ejection murmur at the second and fourth intercostal space of the right parasternal line. The heart apex lay on the right side, and many infiltrates in both lungs in the Chest X-ray. The patient was treated with antibiotics and diuretics.

She was referred for echocardiography, and the results were incomplete AVSD with dextrocardia, severe mitral regurgitation, and tricuspid regurgitation. Catheterization was performed, and Sildenafil, Lisinopril, and Spironolactone were given as conjoint therapies. The recurrence of cough and dyspnea were much reduced, and had a weight gain after catheterization.

Conclusion

A careful history taking and physical examination are very important for early diagnosis of CHD to get better outcomes.

Keywords: CHD**;** AVSD; Dextrocardia; Infant

Referrence

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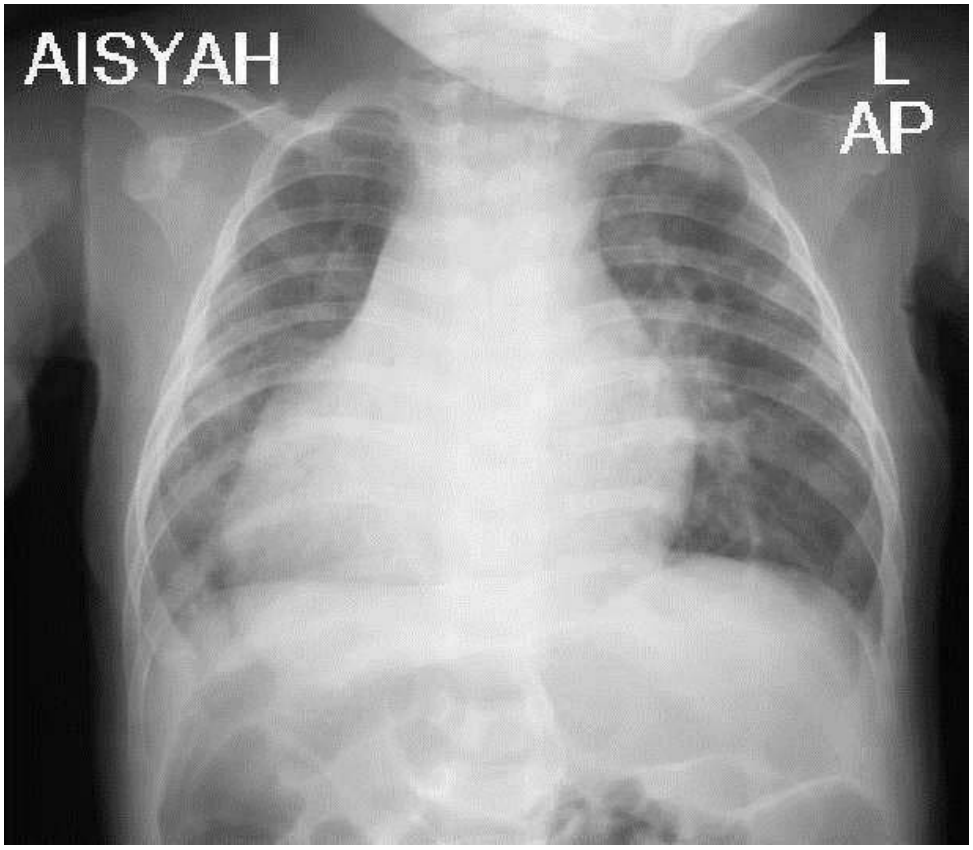
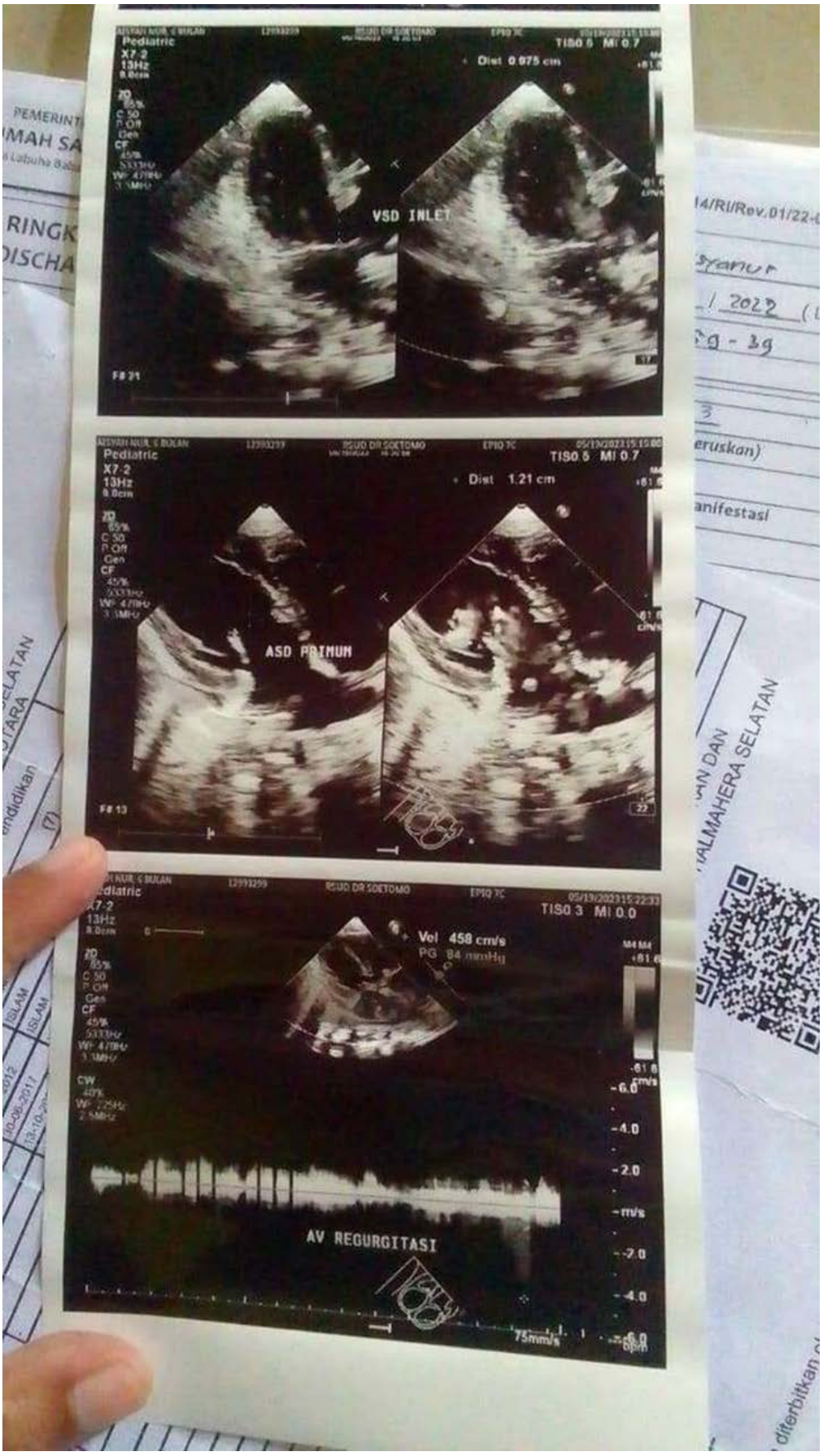
Fig.




Pediatric
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PG 84 mmHg
AV REGURGITASI
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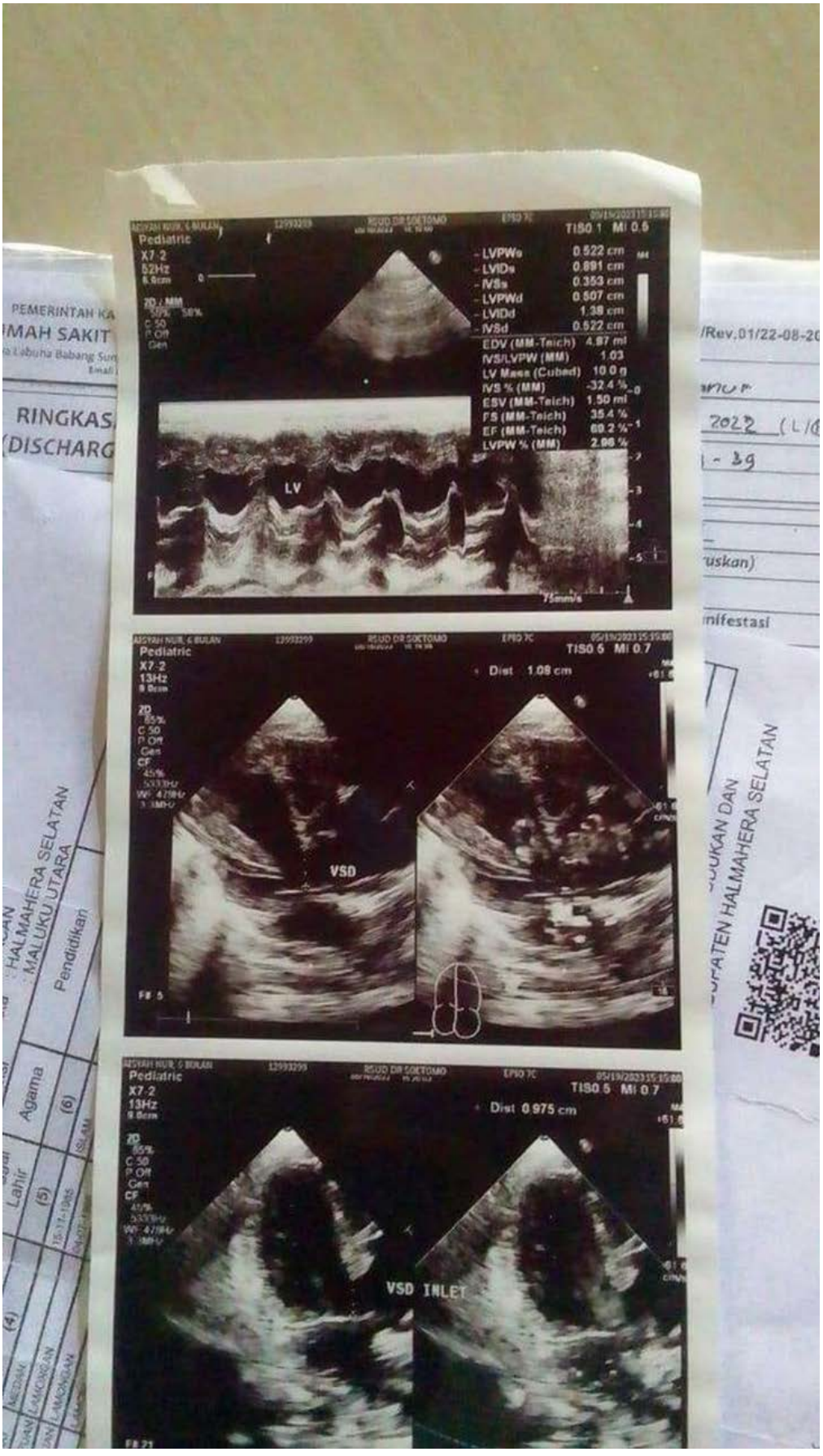
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LVPWs 0.522 cm
LVIDs 0.891 cm
IVSs 0.353 cm
LVPWd 0.507 cm
LVIDd 1.38 cm
IVSd 0.522 cm
EDV (MM-Teich) 4.87 ml
IVS/LVPW (MM) 1.03
LV Mass (Cubed) 10.0 g
IVS % (MM) -32.4 %
ESV (MM-Teich) 1.50 ml
FS (MM-Teich) 35.4 %
EF (MM-Teich) 69.2 %
LVPW % (MM) 2.96 %
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CAR 09

Correlation between High RDW-to-Platelet Ratio and Worse Outcome of Percutaneous Transcatheter Closure in Children with Acyanotic Heart Disease

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Objective: Predicting Percutaneous Transcatheter Closure (PTC) outcomes still becomes challenging, depending on the operator's experiences. A simple laboratory parameter called RDW-to-platelet ratio (RPR) is a new inflammatory marker to detect heart failure in children. This study explored the correlation between RPR value and PTC outcomes in children with acyanotic heart disease.

Methodology: It was a cross-sectional study of children with acyanotic heart disease who performed PTC in Dr. Moewardi Hospital in 2020-2022. We used Mann Whitney to analyze the relationship between independent variables (red blood cell distribution width (RDW), platelet count, and RPR value pre-cath lab) and a dependent variable (patient's outcome post-PTC).

Results: There were 151 children with acyanotic heart disease included in this study: 19.87% atrial septal defect (ASD), 41.06% ventricular septal defect (VSD), and 39.07% patent ductus arteriosus (PDA). Bad PTC outcome was found in 26.49% of patients, including 97.5% with residual shunt and 2.5% with dislocation. The RPR value was found to be significantly higher in the bad outcome group compared with the good outcome group (0.059 ± 0.023 vs 0.046 ± 0.014, p=0.001). In addition, bad outcome groups had significantly lower platelet count (272 ± 71 vs 337 ± 87, p=0.001) and insignificantly higher RDW value (14.9 ± 2.2 vs 14.5 ± 2.3, p=0.145).

Conclusion: High RPR value was found significantly correlated with a worse PTC outcome in children with acyanotic heart disease. It is helpful for increasing operator awareness before doing PTC at a referral center.

Keywords: Red blood cell distribution width, platelet count, RPR value, percutaneous transcatheter closure, acyanotic heart disease

Table 1. Subject characteristics

Variable	Frequencies (%)	Mean ± SD
Gender		
Male	86 (57)	
Female	65 (43)	
Age (years)		4.60 ± 3.97
Acyanotic heart disease type		
ASD	30 (19.87)	
VSD	62 (41.06)	
PDA	59 (39.07)	
Laboratory parameter		
RDW		14.6 ± 2.3
Platelet count		320 ± 86
RPR		0.049 ± 0.017
Outcome		

Table 2. Mann-Whitney analysis

Laboratory parameters	Mean ± SD		p-value*
	Good outcome	Bad outcome	
RDW	14.5 ± 2.3	14.9 ± 2.2	0.145
Platelet count	337 ± 87	272 ± 71	0.001
RPR	0.046 ± 0.014	0.059 ± 0.023	0.001

Note: *p<0.05 means significant. RDW=red blood cell distribution width, RPR=RDW-to-platelet ratio

CAR 12

Methicillin Resistant Staphylococcus Aureus Infection in Case Acute Rheumatic Fever

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Background : Acute Rheumatic Fever (ARF) is the consequence of an immunological reaction to pharyngitis caused by an infection with *group A streptococcus*. The aim of this Case report is to report acute rheumatic fever with co-infection of *staphylococcus aureus MRSA (Methicillin-Resistant Staphylococcus Aureus)* which resistant to secondary prophylaxis treatment according to the AAP management guidelines.

Case : A 10-year-old boy was hospitalized with complaints of dyspnea,cough, fever and joints pain for the last three weeks. Two months ago, the patient had history of fever was treated with antibiotic. On physical examination, he appeared in shortness of breath, with tachyipnea, tachycaridia and hyperthermia. He had systolic murmur. Laboratory test showed the elevated white blood cell count, c-reactive protein level and antistreptolisyn O titers. Accompanied with the presence of carditis and severe cardiomegaly, the patient was diagnosed with ARF based on revised Jones criteria. After several days the throat culture swab showed colonization of *Staphylococcus aureus MRSA* which resistant to many antibiotics such as Benzyl penicillin, the first line antibiotic and secondary prophylaxis for recurrence of ARF. Patient received 3rd generation of cephalosporin antibiotic and glucocorticoid, the treatment continued until 14 days. the patient's condition improved and discharged from hospital with secondary prophylaxis with erytromicyn based on his throat culture swab for 10 years.

Conclusion : Prompt diagnosis and treatment with secondary prophylaxis antibiotic can prevent recurrence of ARF that is the most effective way to prevent rheumatic heart disease

Keywords: acute rheumatic fever, *MRSA*, jones criteria

CAR 31

Permanent Pace Maker Implantation in Neonates with Congenital Complete Atrioventricular Block : A Case Series

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Neonatology Division, Pediatric Department, Harapan Kita National Women and Children Health Centre, Jakarta

Objective: Congenital complete atrioventricular (AV) block occurs in approximately 1 in 20,000 live births and is known to result in significant mortality and morbidity. It can occur as a result of an immune or a non-immune mediated process. It is a multifactorial disease, associated with the trans-placental passage of maternal autoantibodies (anti-Ro/SSA and/or anti-La/SSB). Permanent pacemaker (PPM) implantation in neonates with congenital complete AV block is technically challenging due to the small size of the patients, presence of concomitant structural heart defects, and rapid child growth.

Case: We experienced 5 Cases of congenital complete AV block in neonates with persisting low heart rate after birth. These Cases showed 2 patients whose mothers had a history of autoimmune disease, namely Sjogren's syndrome with positive ro and taking methyl prednisolone and 3 Cases without a history of autoimmune disease. In 1 Case the patient was accompanied by a congenital abnormality namely anorectal malformation and 3 Cases with sepsis at the time of hospitalized. The diagnosis of patients was made perinatally with intervention by PPM implantation immediately after birth in 2 Cases and the other 3 Cases with PPM implantation in the next few days. The outcomes in these five Cases were good without complications.

Conclusion: Congenital complete AV block is rare Case that must be recognized. Early diagnosis and treatment congenital complete AV block with PPM implantation can significantly reduce morbidity, mortality rate and improved outcome.

Keywords: Congenital complete AV block, permanent pacemaker, Neonates

CAR 32

Transcatheter Closure of Perimembranous Ventricular Septal Defect in A Child

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Objective: Congenital heart disease (CHD) are the most frequent congenital anomalies, affecting millions of newborns annually. Ventricular septal defect (VSD) is the most common CHD, accounting for 30% of all types of congenital heart disease.

Case: A 2-year-old male patient came to the outpatient clinic at Kandou General Hospital with a chief complaint of repeated cough and cold since the age of 1 year old. According to the parents, the patient was also often tired after strenuous activity. He had never appeared blueish after crying before. The echocardiography showed a perimembranous ventricular septal defect 3-4 mm with a left to right shunt. The patient was diagnosed with perimembranous VSD and advised to do the transcatheter closure of the VSD procedure.

Conclusion: The clinical manifestations of VSD vary widely, from asymptomatic to severe heart failure accompanied by failure to thrive, and depend on the size of the defect and the degree of left-to-right shunt that occurs. Recently, a technique for the closure of VSD has been developed using a Konar-Multifuctional Occluder (MFO) device inserted with a catheter to avoid surgery. This technique can only be performed for defects far from important structures, e.g. valves are good candidates for closure with this technique. The long-term results of this transcatheter closure technique are excellent.

Keywords: Congenital heart, transcatheter closure management

CAR 34

A Boy with Restrictive Cardiomyopathy and Massive Pericardial Effusion

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Mohamad Supriatna Toto Saputra, Yusrina Istanti, Dewi Ratih Priyantiningsih, Anindita Soetadji

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Objective : Pericardial effusion is an accumulation of fluid within pericardial cavity which exceed 50 ml caused by infection, idiopathic, cardiomyopathies, malignancy, radiation, trauma, connective tissue diseases, and metabolic disorder with prevalence 0.1% in pediatric population.

Case : An 8 years old boy with ascites, jaundice, dyspnea and history of right humerus fracture was referred to cardiology department because of heart failure with pancardiomegaly on chest x ray. Physical examination showed edema, ascites and clubbing finger. Echocardiography examination revealed massive pericardial effusion and restrictive cardiomyopathy. Laboratory result showed increase CRP and ESR. Pericardial window surgery was performed and obtained 300 ml of serous fluid. Rivalta test consistent with exudate, gram stain found gram-negative and gram-positive bacteria. Blood and pericardial fluid culture were sterile. Carbapenem and aminoglycoside was given. Heart failure treated with dobutamine, furosemide, spironolactone, and captopril. Hypoalbuminemia treated with albumin transfusion. Oral ibuprofen at a dose of 300 mg / 8 hours was given due to suspicion of pericarditis as a cause of massive pericardial effusion. Ibuprofen was then gradually tapered off weekly. Pneumopericardium occurred after pleural tube was taken out, that resolved spontaneously after 2 weeks. Echocardiogram showed no pericardial effusion. His condition improved and discharged after 3 weeks post surgery.

Conclusion : A boy with restrictive cardiomyopathy complicated by heart failure, massive pericardial effusion, pericarditis and pneumopericardium was successfully treated with pericardial window surgery, antibiotic, heart failure management, albumin, oral ibuprofen and fully recovered in 3 weeks.

Keywords : restrictive cardiomyopathy, pericardial effusion, pericarditis, pericardial window, ibuprofen

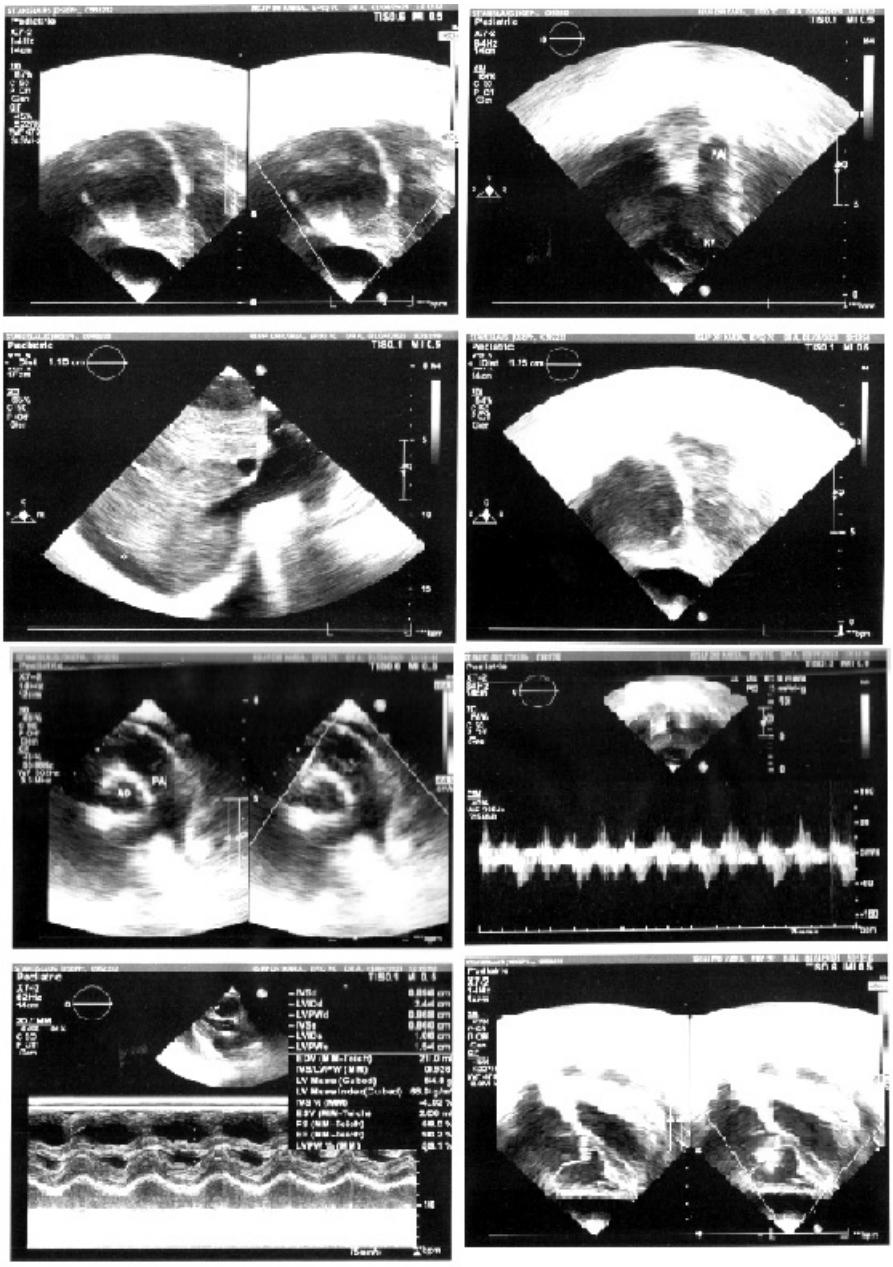

Figure 1. Echocardiography (before pericardial window surgery) : massive pericardial effusion and restrictive cardiomyopathy

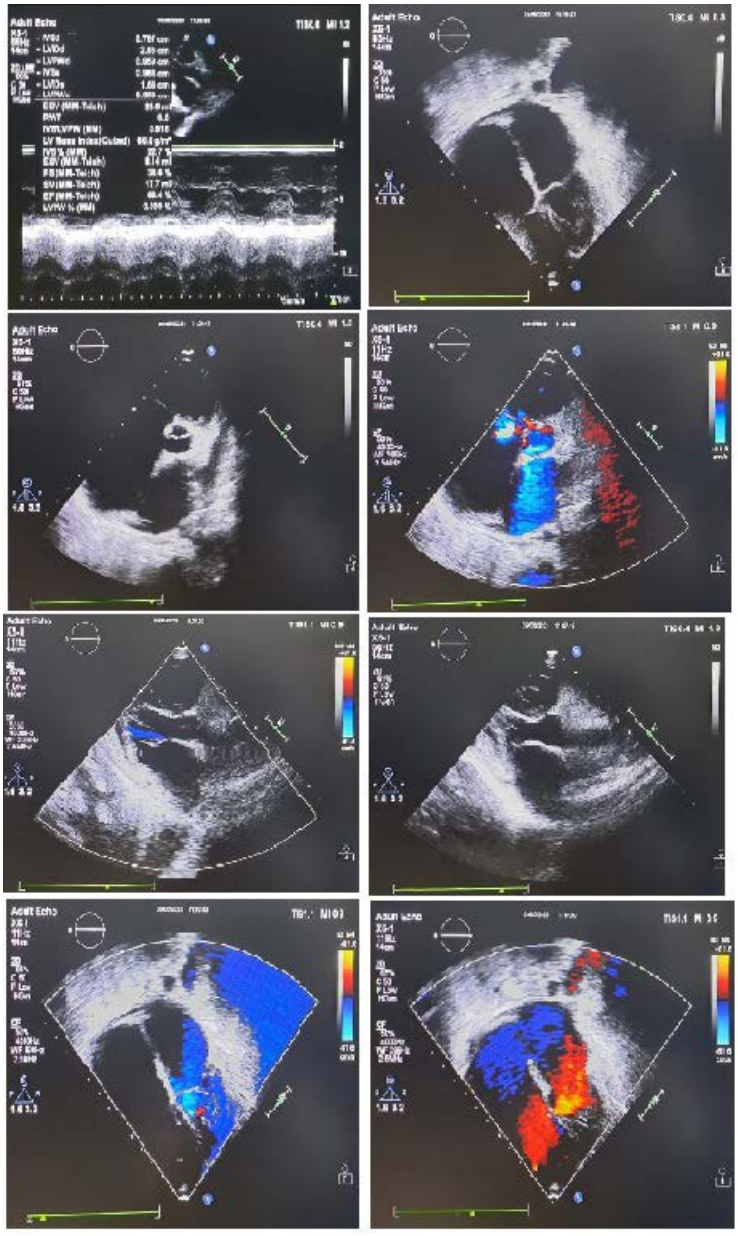

Figure 2. Echocardiography (after pericardial window surgery) : restrictive cardiomyopathy, mild tricuspid regurgitation, no pericardial effusion

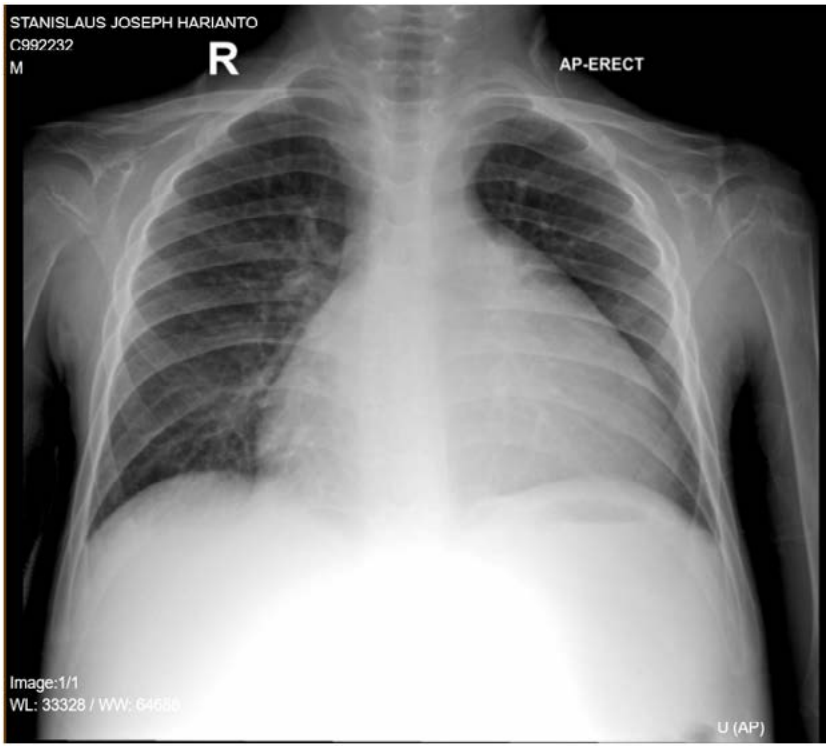

Figure 3. Chest X ray (before pericardial window surgery) : pancardiomegaly with differential diagnosis pericardial effusion

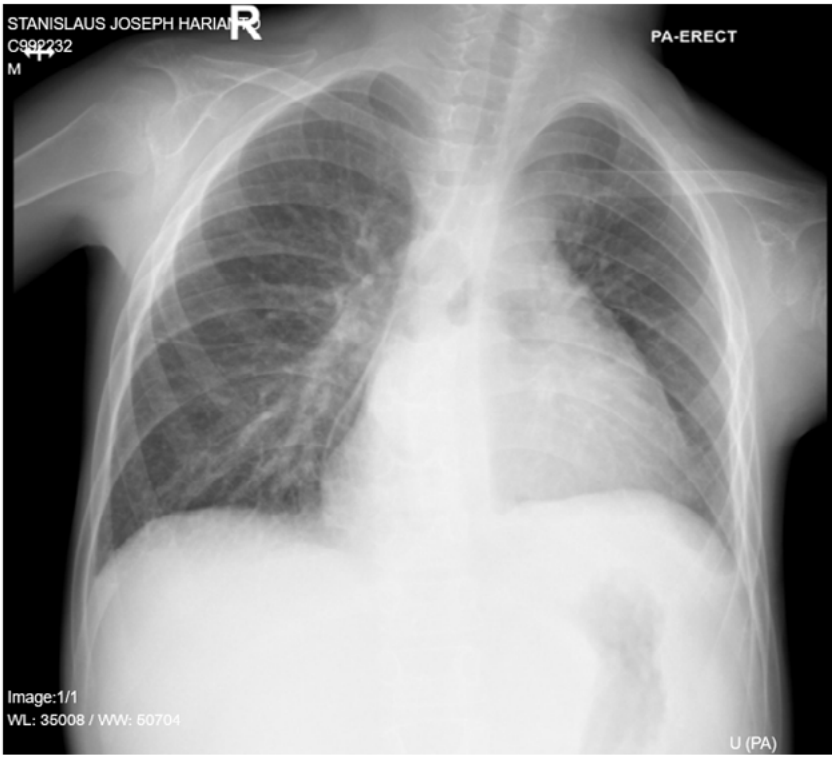

Figure 4. Chest X ray (19 days after pericardial window surgery) : reduced pneumopericardium and bronchopneumonia

Lab	Unit	Normal range	1/4/23	7/4/23	12/4/23	14/4/23	22/4/23
Hb	g/dL	10.8-15.6	12.2		12.4	11.2	12.4
Ht	%	32-62	41.2		43.1	38.9	42.3
WBC	10^3/uL	5-13.5	8.9		12.2	12.1	8.6
Plt	10^3/uL	150-400	262		386	307	427
Random blood glucose	mg/dL	80-160	67		132		
Ureum	mg/dL	15-39	24		40		
Creatinine	mg/dL	0.6-1.3	0.6		0.5		
Albumin	g/dL	3.4-1.5	**2.5**		**2.2**	**2.8**	**2.6**
Protein Total	g/dL	6.4 – 8.2					**4.51**
SGOT	U/L	15-34					**52**
SGPT	U/L	15-60					50
Mg	mmol/L	0.74-0.99	0.7				
Ca	mmol/L	2.12-2.52	1.9		2.1	2.0	
Na	mmol/L	136-145	132		**128**	134	133
K	mmol/L	3.5-5.0	4.2		3.5	4.1	4.7
Cl	mmol/L	95-105	106		93	102	99
CRP	mg/dL	0.- 0.30	**0.38**				**3.41**
ESR	/mm	1-14	2				**28**
HbsAg	-	< 1.00	0.00				
Prothrombin Time	second		0.76 x		1.28 x		
Partial Thromboplastine Time	second		0.90 x		1.84 x		
Protein urine	mg/dL	negative		negative			
Urobilinogen	mg/dL	negative		negative			
Nitrite urine	mg/dL	negative		negative			
Reduction urine	mg/dL	negative		negative			
Leukocyte sediment	/uL	0.0 – 20.0		0.1			
Eryhtrocyte sediment	/uL	0 - 25		0.0			
Bacteria urine	/uL			9.2			
Leukocyte cylinder	LPF	negative		negative			
Erythrocyte cylinder	LPF	negative		negative			

Table. Laboratory Findings

CAR 51

Balloon Atrial Septostomy in A Baby with Transposition of Great Arteries

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Background
Transposition of the great arteries (TGA) is the most common congenital heart disease, accounting for 5-7% of all cardiac anomalies, with a prevalence of 0.2-0.3 per 1000 live births. If left untreated, it will lead to progressive hypoxia, acidosis and death. In order to reverse the complication, surgical intervention such as balloon atrial septostomy had to be conducted to prevent the complication.

Case
RB, two months male baby was admitted to hospital with chief complaint of dyspnoea and cyanotic that has worsened 3 days before admission. His parent complaint that their child often gets respiratory tract infection and his body weight remains stagnant. He did not complaint any fever, otherwise other physical examination was within normal limit. On auscultation, it was heard systolic ejection grade 4/VI on left parasternal line. He underwent echocardiography with the result transposition of great arteries and patent foramen ovale with small patent ductus arteriosus. Then he transferred to cardiology ward and undergo balloon atrial septostomy on April 2023. On the eighteenth day after surgery, the patient looked stable and discharged from hospital.

Conclusion
Transposition of great arteries is a congenital heart defect arise from embryological disturbance between aorta and pulmonary trunk. The aorta arises form right ventricle, thus creates two circuits shifting from blood rich of oxygen mixed with the other blood. On physical examination it will find cyanosis, tachypnoea, and murmur. Initial management of patients with TGA are adequate oxygenation, follow with surgical procedures such as arterial switch operation or Rastelli procedure.

Keywords: balloon atrial septostomy, transposition of great arteries (TGA)

CAR 03

Cardiac Implications of Congenital Sternal Agenesis

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Background : The association between congenital heart disease and abnormal development of chest wall in newborn is commonly known. As the musculoskletal system of the trunk is developing, the heart is also developing. Pentalogy of Cantrell is one of the example from collection of congenital midline birth anomalies that include defect of the heart, pericardium, diaphragm, sternum and abdominal wall.

Case : We report a Case of 46 days-old male infant with cyanotic heart disease and multiple congenital anomalies (omphalocele, syndactyly, sternal agenesis and labiopalatoschisis). Patient was admitted to emergency department due to cyanotic spell. Patient was born at 38 weeks pregnancy, by cesarean delivery in prior to placenta previa with 3.400 grams birth weight. The mother had once antenatal ultrasonography. Clinical examination revealed patient's oxygen saturation was between 60-70% with nasal oxygen and ectopic heart covered with necrotic skin. The interpretation of chest x-ray radiology is enlargement of superior mediastinum with suggestive of dextrocardia and sternal agenesis. Postnatal echocardiography showed limited study with situs solitus, mitral atresia, pulmonal atresia, ventricular inversion, atrial septal defect, patent ductus arteriosus, ventricular septal defect and good contractility. Patient treated with propranolol and discharged from hospital on 12th day.

Conclusion : Prenatal diagnosis is important for early diagnosis. Postnatal diagnosis is needed for prompt treatment. In our Case, we suggest to do thoracoabdominal computed tomography scan and also joint conference with cardiology, plastic surgery, pediatric surgery and thoracic surgery department for further surgical management.

Keywords : Congenital Anomalies, Cyanotic Heart disease, Sternal Agenesis

CAR 37

Characteristic of Congenital Heart Disease in Pediatric Patients from 2021 – 2023 at Zainoel Abidin Hospital, Aceh Province.

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Introduction :
Congenital heart disease (CHD) is the most common genetic disorder in infants and children patients. The incidence of congenital heart disease varies worldwide, with recorded rates ranging from 6 - 10 per live birth, with an average of 8 per live birth. This study was conducted to describe the prevalence of CHD in pediatric patients in Aceh Province who had undergone echocardiography from August 2021 to July 2023

Methods :
We collected data contained in the Pediatric Cardiology Patient Registration at Zainoel Abidin Hospital Aceh between August 2021 to July 2023. The diagnosis was made by echocardiography examination.

Result :
Acyanotic CHD is the most common type in children (90,5%), with PDA (59,4%) and VSD (17,6%) as the most common lession. TOF (45%) being the most common finding of cyanotic CHD. Most of the the patient was diagnose at neonatal period (50,5%). Severe malnutrition was found about 30% in cyanotic CHD dan 28,8% in acyanotic CHD. Infection and pneumonia were the most common comorbid in both group. Most of the patient in acyanotic CHD accompanied with heart failure (60,5%) and pulmonary hypertention (23,5%) as the complication.

Conclusion :
The number of CHD Cases in Aceh province is still quite high, with a predominance of Acyanotic CHD patients. Paediatric CHD corelate with malnutrition, infections and pneumonia. Early detection and comprehensive treatment are essential for complications prevention.

Keyword : Characteristic; Congenital Heart Disease; Acyanotic; Cyanotic

CAR 38

A Baby Girl 17-days-old with Pulmonary Atresia-Ventricle Septal Defect, Malposition of Great Artery, and Patent Ductus Arteriosus: Case Report

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Department of Pediatrics, Hasanuddin University, Faculty of Medicine/ Wahidin Sudirohusodo Hospital, Makassar - Indonesia

Background: Pulmonary Atresia (PA) is a critical congenital heart disease (CCHD) in which there is no outflow tract from the right ventricle to the pulmonary artery. Babies with PA require immediate intervention after birth, either surgically or transcatheter, to save the baby's life. Without early intervention, the mortality rate is very high.

Case illustration: A 17-days-old baby with complaints of shortness of breath and skin looked bluish from birth, and it got worse when the baby cried. On physical examination, the baby looked cyanotic with oxygen saturation 68% by nasal cannula and Downes Score 7. Cardiac examination revealed grade 3/6 systolic ejection murmur at ICS 2-3 LSB. Laboratory tests showed leukocytes at 17,000/uL and hemoglobin at 12.8 g/dl; blood gas analysis revealed respiratory alkalosis. Cardiomegaly was found with signs of L-R shunt, suspected VSD on chest x-ray examination. Echocardiogram examination concluded that there was PA with VSD, malposition of the great arteries, and PDA. Babies were only given low flow and low fraction oxygen with a saturation target of 75–80% because of the possibility of ductal closure. Patient were given intravenous fluid to prevent dehydration and antibiotic if comorbid infections are presents. Catheterization intervention management in the form of PDA stenting is a life-saving action in this Case. Management with surgical correction is the definitive action for patients with PA.

Conclusion: Accurate and early diagnosis of CCHD has implications for rapid management of the disease and can improve outcomes for newborns with CCHD.

Keywords: Critical congenital heart disease, pulmonary atresia-ventricle septal defect (PA-VSD), malposition of great artery, patent ductus arteriosus (PDA), children

CAR 01

Arrhytmia as Cardiac Manifestation of Multisystem Inflammatory Syndrome in Children (MIS-C)

Trisna Yunita, Didik Hariyanto

Department of Child Health, Faculty of Medicine Universitas Andalas,
Dr.M.Djamil Hospital Padang

Background/Objective

Multisystem Inflammatory Syndrome in Children (MIS-C) typically occurs a few weeks after acute infection and the putative etiology is a dysregulated inflammatory response to SARS-CoV-2 infection. Persistent fever and gastrointestinal symptoms are the most common symptoms. Cardiac manifestations are common including ventricular dysfunction, coronary artery dilation and aneurysms, arrhythmia and conduction abnormalities. Severe Cases can present in vasodilatory or cardiogenic shock. The aim of this Case presentation is to report a Case of MIS-C with Supraventricular Tachycardia (SVT) on pediatric patient at Dr. M. Djamil Hospital.

Case

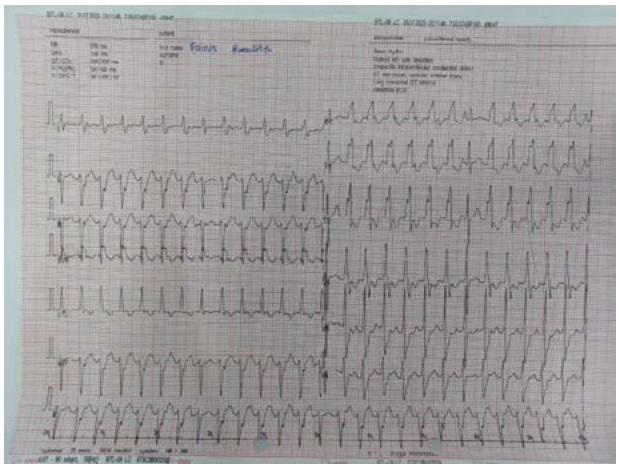
A 12 year old male patient with the main complaint of shortness of breath during activity, accompanied by chest palpitations, puffy eyes, cough, dizziness, and decreased appetite. Incomplete immunization history. On physical examination, we found tachycardia, tachypnea, and elevated jugular venous pressure. Laboratory investigation showed increased leukocytes, liver functions, prolonged PT and APTT, and reactive anti-SARS-CoV IgG. Blood gas analysis showed respiratory alkalosis. Chest X-ray examination showed cardiomegaly. ECG and Echocardiography showed supraventricular tachycardia and mild TR, poor LV and RV function. The patient was treated in the PICU with oxygen therapy, catheter and nasogastric tube attached, FFP transfusion, inotropic and furosemid drip, milrinone, digoxin and methylprednisolone. Patient was discharged on 15th day hospitalization and continued treatment to the pediatric cardiology polyclinic.

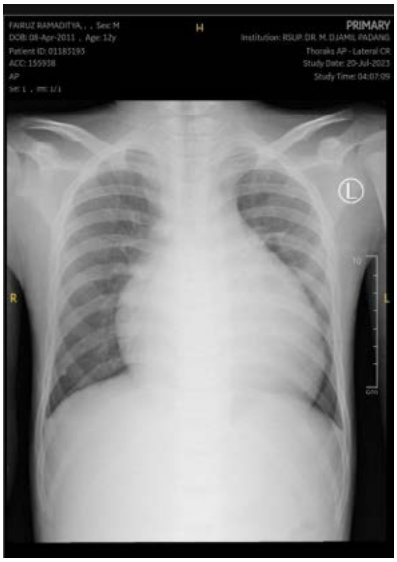
Conclusion

SVT were a rare complication of MIS-C and were associated with worse clinical outcomes, highlighting the importance of close monitoring, aggressive treatment, and postdischarge care.

Keywords : *Multisystem Inflammatory Syndrome in Children, Supraventricular Tachycardia, tachycardia, tachypnea.*

Appendix





CAR 06

Pulmonary Atresia and Ventricular Septal Defect (PA-VSD) Duct Dependent in Very Low Birth Weight Neonate : A Case Report

Nurul Maghfirah, Yusrizal

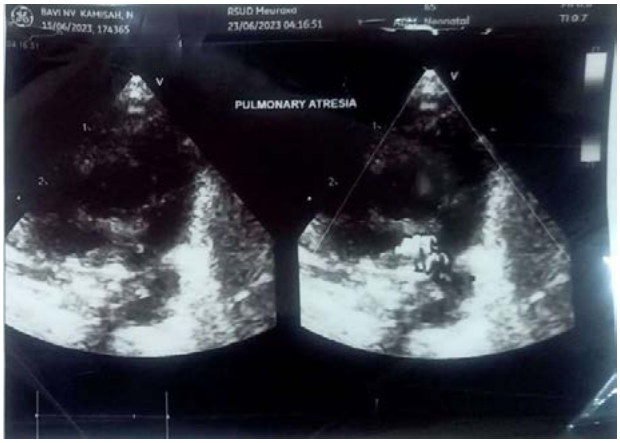
Department of Child Health, Meuraxa Hospital, Banda Aceh, Indonesia

Objective : Critical congenital heart disease (CCHD) is a heart defect that requires intervention in the first year of life. Pulmonary atresia with ventricular septal defect (PA-VSD) is a rare cyanotic CCHD with a high morbidity and mortality. This Case reports a PA-VSD that depends on the patency of ductus arteriosus in order to supply blood flow to the lungs on a very low birth weight (VLBW) baby.

Case : A 1-day-old baby boy was admitted to emergency department with shortness of breath. The baby was born due to premature rupture of membranes at 34 weeks gestation with birth weight 1.150 grams and Apgar Score 4/7. Oxygen saturation in right hand and leg was 76% and 72% respectively. Down score 5. Physical examination showed central cyanosis, nasal flaring, minimal intercostal retractions, and continuous murmurs at left ICS 2-3 grade 3/4. Patient was treated with CPAP, Ampicillin, and Gentamicin, then oxygen saturation was improved. Radiological findings revealed left to right shunt cardiomegaly with boot-shaped appearance. Echocardiographic examination found pulmonary atresia with 8 mm perimembranous VSD, 3 mm patent ductus arteriosus, and 2 mm secundum atrial septal defect. Patient was given oxygen carefully by administering low oxygen fraction and monitoring SpO2 continuously. Furthermore, the patient was planned for prostaglandin infusion and PDA stenting.

Conclusion : PA-VSD patients with duct-dependent must be recognized early to anticipate the administer of excessive oxygen which affects the patency of the duct. Definitive treatment should be carried out to maintain pulmonary blood flow for a better prognosis.
Keywords : congenital heart disease, patent ductus arteriosus, pulmonary atresia, ventricular septal defect

X-ray : left to right shunt cardiomegaly with boot-shaped appearance



Echocardiography : pulmonary atresia with 8 mm perimembranous VSD, 3 mm patent ductus arteriosus, and 2 mm secundum atrial septal defect

CAR 15

Quality of Life in Children with Rheumatic Heart Disease

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Department of Child Health, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, DR Sardjito Hospital, Yogyakarta, Indonesia

Background/Objective
Rheumatic heart disease (RHD) affect the quality of life in children due to the long term prophylaxis penicillin intramuscular injections, severity of valves lesion and heart failure symptoms. We aim to investigate the quality of life in children with RHD and the determinant factors.

Methodology
We did a cross sectional study in 39 children with RHD in Dr Sardjito General Hospital, a tertiary hospital in Indonesia. We used generic and cardiac module Pediatric Quality of Life Inventory TM (PedsQL) which comprised of 23 questions for evaluating physical, emotional, social and school function. This questionnaire has been translated and validated with local language and culture of Indonesia. Severity of valves lesions, pulmonary hypertension, atrial fibrillation, congestive heart failure and severe malnutrition were considered as determinants factors of QoL and analyzed with independent T-test and multilinear regression analysis.

Results
Total score of generic and cardiac module PedsQL from parent report and child self-report were 74.0±15.6, 75.9±11.7, 79.1 ± 14.0 and 80.0 ± 14.5 respectively. There were no significant different between children and patient perspective regarding the QoL both in generic and cardiac module (p value 0.17 and 0.6). Multilinear regression analysis showed that severe valve lesion and pulmonary hypertension lowered the QoL as low as 10.2 and 14.2 points. However, this correlations were weak (R^2 9% for severe valve lesion and 6% for pulmonary hypertension).

Conclusion
Quality of life in RHD children were low compared to normal child. Pulmonary hypertension and severe valve lesions were determinants of QoL in these children.

Keywords
Children, Rheumatic heart disease, Quality of Life

CAR 19

Arrhythmia in Pediatrics Dengue: Serial Case Report

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Objective: Dengue fever is a common viral disease primarily affecting tropical nations. Although most Cases have relatively mild symptoms, some patients experience severe clinical symptoms, such as bleeding and endothelial dysfunction, which may lead to hypovolemic shock and cardiovascular involvement. Dengue fever is now known for its ability to induce myocardial inflammation and arrhythmias, and, in rare Cases, severe dengue may cause fulminant myocarditis. Conduction abnormalities range from benign sinus bradycardia to fulminant tachyarrhythmia and atrioventricular blocks.

Case: In Al Islam Hospital Bandung, there were four Cases of dengue fever with conduction abnormalities from June to July 2023. The first Case presented with worse severity of the dengue infection than the other three. Came to the ER with severe dengue, cold peripheries and feeble pulse, elevated liver enzyme, and typhoid fever. He was treated with fluid resuscitation according to the WHO Protocol for dengue shock syndrome management. After two days of hospitalization in a pediatric high-care unit, the heart rate decreased and evolved into a complete heart block rhythm. It was inferred that the arrhythmia rhythm was due to myocarditis caused by the dengue infection that induced the heart's conduction problem. The other three Cases, with a milder severity of the dengue, only showed bradyarrhythmia without heart block forms. All subjects showed a normal intracardiac in the echocardiography examination.

Conclusion: In this review, the authors have discussed the unusual manifestation of dengue infection, its potential to cause arrhythmia manifestation, and how its severity resulted in various arrhythmias.

Keywords: severe dengue, myocarditis, arrhythmia

CAR-2-01

Role of *Iloprost* to Tackle an Anomalous Pulmonary Venous Drainage Baby: A Case Report

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Cardiology Department, Persahabatan General Hospital, East Jakarta, Indonesia

Objective: Total or Partial anomalous pulmonary venous drainage (APVD) is a congenital heart disorder that causes abnormal blood flow from lungs to heart. *Iloprost*, as a stable synthetic analogue of prostacyclin, was suggested effective in improving pulmonary haemodynamic in APVD.

Case: 1-day-old baby was referred to Persahabatan general hospital with respiratory distress. An echocardiography shown severe pulmonal hypertension, with the possibility of Total or Partial anomalous pulmonary venous drainage (TAPVD/ PAPVD). *Iloprost* was given to this baby with saturation improvements until the patient was re-reffered to a cardiac hospital at the age of 9 days.

Conclusion: Iloprost showed favorable outcomes to tackle APVD, therefore it could be considered as rescue therapy while indicated.

Keywords: PAPVD, TAPVD, Iloprost, Congenital heart Disorder, Rescue Therapy

CAR 02

Dextrocardia and Right Lung Agenesis in 4-month-old Child

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West Sumatra, Indonesia

Background: The heart shifts to the left in the 4th week of fetal life and simultaneously develops into a ventral diverticulum arising from the foregut. A disturbance during the 4th week of gestation could cause an erroneous shift of the heart and an unequal division between the two lung buds. A disturbance during the 4th week of gestation could result in the heart being shifted incorrectly and the two lung buds being divided unevenly. Right lung agenesis is less common and has a worse prognosis than left-sided agenesis, perhaps because of excessive carina shift, incorrect draining of the working lung, and a higher risk of respiratory infection.

Case: A 4-month-old child was referred to our hospital with fever, cough, and shortness of breath. The patient required CPAP to maintain breathing. On chest examination, she showed decreased movements of the right hemithorax with reduced breath sounds and scanty coarse inspiratory crackles, while percussion notes were hyperresonant on the left side. Ictus cordis and heart sounds were detected in the patient's right hemithorax. Routine blood test results were within the normal range. Chest radiography revealed an opaque, right hemithorax. CT tomography showed absence of the right lung parenchyma and right main bronchus, hyperinflation of the left lung parenchyma, and absence of the right pulmonary artery. Echocardiography revealed that the biventricular volumes and function were within normal limits.

Conclusion: Surgery is seldom required for lung agenesis or aplasia because it can be managed using conservative lines. The prognosis of these Cases depends on the functional integrity of the remaining lung. In our Case, the patient was discharged in good clinical condition and underwent conservative therapy based on physiotherapy.

Keyword: *Dextrocardia, Lung Agenesis, Congenital Anomalies*

CAR 07

Ventricular Tachycardia with Hemodynamic Instability in 14 year old girl - a Case report

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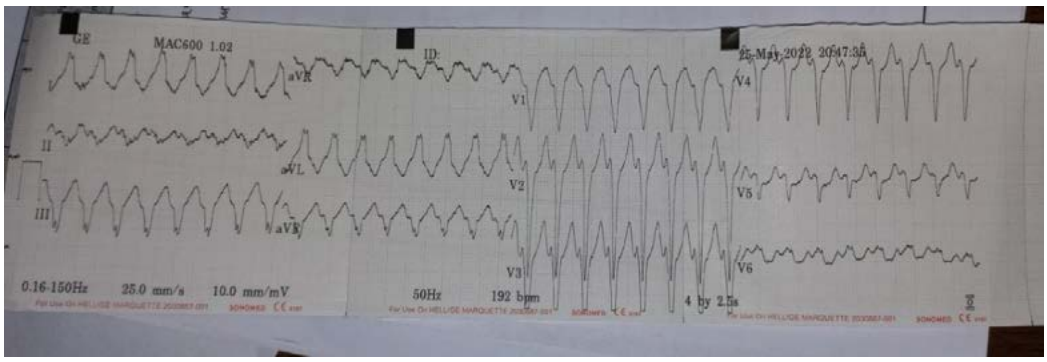
Sekarwangi General Hospital, Sukabumi, Indonesia

Background :
Ventricular tachycardia (VT) is uncommon in pediatric population but it is a serious form of arrhythmia and can be life-threatening. Early diagnosis and prompt treatment are very important in order to avoid serious complications.

Case:
We present a Case of 14-year-old girl who was admitted to the emergency department after complaining of palpitation that developed suddenly without a history of cardiac symptoms or structural heart disease. She was not on taking any medications before. Her consciousness was clear, respiratory rate of 26 breaths/minute, heart rate at 192 bpm, and blood pressure (80/60mmhg). The 12-lead ECG showed monomorphic wide complex tachycardia. L*aboratory* findings revealed a *normal* result. Synchronized cardioversion of 35 J to 70 J was delivered, yet this was unsuccessful. She continued to have a heart rate of 175 bpm, and blood pressure was 90/60 mm Hg. Pharmacologic cardioversion with intravenous amiodarone (25 micrograms/kg/minute for 4 hours) was given, followed by maintenance dose. VT converted to a sinus rhythm in 3 hours after amiodarone administration. The patient's symptoms of discomfort were gradually relieved, and discharged one day later.

Conclusion:
Immediate cardioversion should be applied to patients with VT in hemodynamic instability. In our patient, synchronized cardioversion failed to convert the arrhythmia but the pharmacologic cardioversion made it successfully convert. It is important for emergency physicians to recognize the life threatening arrythmia and to manage it appropriately. Further diagnostic testing and cardiology evaluation are needed to evaluate the etiology, to prevent the recurrence and avoid the complication.

Keywords : ventricular tachycardia, life threatening arrhythmia



CAR 13

Acute ischemic stroke in a child with tetralogy of Fallot

Asri Rahmania, Amanda Soebadi, Irawan Mangunatmadja, Sarah Rafika Nursyirwan, Setyo Handryastuti, Achmad Rafli

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Dr. Cipto Mangunkusumo National Central General Hospital, Jakarta, Indonesia

Objective: Ischemic stroke is one of the most frequent neurological complications in young children with tetralogy of Fallot (ToF). We present a Case of a child with ToF presenting with acute ischemic stroke.

Case: A one-year-old male with neonatally-diagnosed ToF was admitted with right focal clonic seizures of 10 seconds each that recurred five times in the past six hours. He remained conscious during and between seizures. He received propranolol 2.5 mg three times daily. Four days p.a. he experienced a desaturation to 20% during a cardiac catheterization. The following day, he slept more frequently and showed right-sided weakness. On physical examination, he was fully conscious and had cyanotic lips and fingertips and clubbing fingers. His SpO_2 was 76-80%. Cardiac auscultation revealed a pansystolic murmur. Motor strength was 2222/5555 in the upper and 4444/5555 in the lower extremities, deep tendon reflexes were increased, pathological reflexes were negative. Cranial nerves appeared intact. On laboratory investigation, hemoglobin level was 16.4 g/dL, normal PT and APTT, slightly reduced fibrinogen level, and mildly elevated D-dimers. Brain CT revealed widespread left hemisphere infarction with cerebral edema. Echocardiography was consistent with ToF. He was given phenobarbital, aspirin, and propranolol. After initiation of treatment, seizures did not recur, weakness improved, and the patient was discharged on the sixth day.

Conclusion: Acute ischemic stroke must be considered in a young child with cyanotic congenital heart disease presenting with acute-onset focal neurological signs. Prompt treatment may optimize outcomes and includes anticoagulation, prevention of cyanotic spells, and anticonvulsants if needed.

Keywords: acute ischemic stroke, tetralogy of Fallot

CAR 14

Weight Gain after Transcatheter Closure in Patent Ductus Arteriosus Children

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Sebelas Maret University/ Dr. Moewardi hospital, Surakarta, Central Java, Indonesia
Email: aninditaratnag@gmail.com

Background/Objective: Children with congenital heart disease such as PDA have a risk of malnutrition due to inadequate intake, increase energy expenditure and malabsorption. The nutritional status and the growth of children can improve significantly after the transcatheter closure. This study aims to investigate body weight gain of children with PDA after transcatheter closure.

Methodology: A cross sectional study was performed in Dr. Moewardi General Hospital from October 2020 to October 2022. We enrolled 35 pediatric patients who underwent transcatheter closure of PDA. Body weight was measured before and a month after closure. Changes in body weight were compared before and after closure using Wilcoxon Rank Test with $p<0.05$ was considered significant.

Results: The mean age of subjects was 3.17 years old (standard deviation 3.17years old). The mean weight before the closure was 9 kilograms (5.6-61 kilograms). The mean weight a month after the closure was 10.2 kilograms (6.70-64.80 kilograms). There was a 13.3% body weight increment after transcatheter closure ($p=<0.001$).

Conclusion: Children with PDA who have had transcatheter closure have significant weight gain.

Keyword: PDA, transcatheter closure, weight gain

CAR 16

Myocarditis Diphtheria as Fatal Complication in Diphtheria: Case Series

Dyahris Koentartiwi, Ardhanis Ramadhanti, Irene Ratridewi

Department of Child Health Faculty of Medicine, Brawijaya University,
RSUD Saiful Anwar Malang

Background: Infection with toxigenic *Corynebacterium diphtheriae* may result in widespread toxin-mediated damage, particularly in the kidneys, nervous system, and heart. Myocarditis diphtheria occurs in 10%–20% of patients who initially present with tonsillo pharyngitis and the mortality rate was 60%. Patients with myocarditis who survive appear to make a full recovery. Manifestations are dilated cardiomyopathy and a variety of types of dysrhythmia and conduction disturbances.

Case: We report 5 Cases of possibly myocarditis in patient with diptheria. History of high-grade fever and white membrane on throat examination was present in all patients. Neurological involvement was present in one patient. The interval between start of symptoms and the development of myocarditis range from 5 to 7 days of illness. Clinically they presented with tachycardia, chest pain, or breathlessness. In our series, two patient had non-specific ST-change on ECG. Echocardiography examination showed left ventricular dilatation in all patients and accompanied by decreasing of ejection fraction (EF: 52% and EF: 57%) in two patients. We give the patient with anti-failure drug and corticosteroid. One week evaluation showed improvement of left ventricular systolic function on those patients. In our series, three patients received anti-diphteric serum (40.000-100.000 IU) intravenously, and one patient was canceled because alergic reaction. Out of four patients, one patient was died due to complication.

Conclusion: Myocarditis is a potentially fatal complication of diphtheria. Early detection, careful monitoring and aggressive management may result in improved outcomes.

Key Words: Diphtheria, myocarditis, children

CAR 17

The Outcomes of Transcatheter Closure in Patients with Patent Ductus Arteriosus at Dr Soetomo General Academic Hospital, Surabaya

Oktaria Safitri, Mahrus Abdur Rahman, Taufiq Hidayat, Henry Wicaksono, I Ketut Alit Utamayasa

Department of Child Health, Faculty of Medicine, Universitas Airlangga,
Dr Soetomo General Academic Hospital, Surabaya, Indonesia

Background

The patent ductus arteriosus (PDA) is one of congenital heart disease. Transcatheter technique closure of PDA is more acceptance than surgical, due to reduce the morbidity, residual flow and thoracotomy scars. The use of transcatheter closure using device catheter has been used as a good procedure with great success even in infant with PDA. We report the outcome of transcatheter closure in paediatric population with patent ductus arteriosus.

Methods

A descriptive cross-sectional study was conducted from April 2020 to April 2023 in the paediatric cardiology outpatient clinic of Dr Soetomo General Academic Hospital, Indonesia. All PDA patients who underwent transcatheter closure were included in this study. We collected patients' demographic data, PDA size, and PDA closure outcome from medical records.

Results

Total patients underwent device placement closure was 157 children, mean age 53.99 months old, male:female ratio was 1:2, predominant in female. The successful device placement was 88.5% (139/157). The present residual flow after the closure procedure was experiences by 18 subjects (11.46%). There was no device embolization occurred in 24 hours after transcatheter. No correlation was seen between size of PDA with the residual outcome of PDA closure (p=0.599).

Conclusion

Patent ductus arteriosus was more common in female and there was no correlation between size of PDA with the present of residual outcome of PDA closure.

Keywords: patent ductus arteriosus, transcatheter, residual flow.

CAR 18

Neurological Manifestation of Rheumatic Fever in Children: What We Should Monitoring ?

Cut Shelfi Oktarina Harnold Herlina Dimiati Zaki Akbar Anidar

Department of Pediatric, Faculty of Medicine Universitas Syiah Kuala Zainoel Abidin General Hospital, Banda Aceh, Indonesia

Background Sydenham chorea (SC) is neurological manifestation in rheumatic fever (RF). The condition occurs after infection with group A streptococcus. SC one of major criteria RF. Recurrence Insidents SC around 42% and persistence 4%. Monitoring is necessary to recovery and prevent both of incidents.

Case A 10 years old boy came to Zainoel Abidin Hospital complaints of uncoordinated spontaneous movement such as jerking, rapid movement of both hands, legs, eyes, mouth, difficult to walk and slurred speech since 2 weeks. Physical examination is consciousness, normal interaction and vital signs. Motor strength, Pathological and physiological reflex normal. Patient has history of intermittent fever since 6 months and getting tired easy. Hearth physical examination result systolic murmur in intercostal midclavicular line V. Laboratory results infection *group A streptococcus beta hemolyticus* with titer 400 U/Ml. Electrocardiography result prolong PR interval 0'20 seconds. Echocardiography result mitral regurgitation. Patient was treated with oral valproic acid 20 mg/kgbb and benzathine penicillin G 1.2 million intramuscular every 28 days till 10 years.

Conclusion The prognosis of SC generally complete recovery in most Cases. Symptomp resolve in 1– 6 months. Monitoring clinical RF can recovery SC because RF is underlying disease. Penicillin is prophylaxis to reduce cardiac complication and recurrence chorea. Antipsychotic, anticonvulsant and immunotherapy are options for SC treatment.

Keywords: Chorea Sydenham, Rheumatic fever, Monitoring.

CAR 20

Successful Treatment in 10-year-old Boy with Advance Stage of RHD: CHF in Indonesia Remote Area, Atambua East Nusa Tenggara

Secundina S. Candida, Sieeny, Juanita A Widodo, Sondang Herikson Panjaitan, Charles Saputra

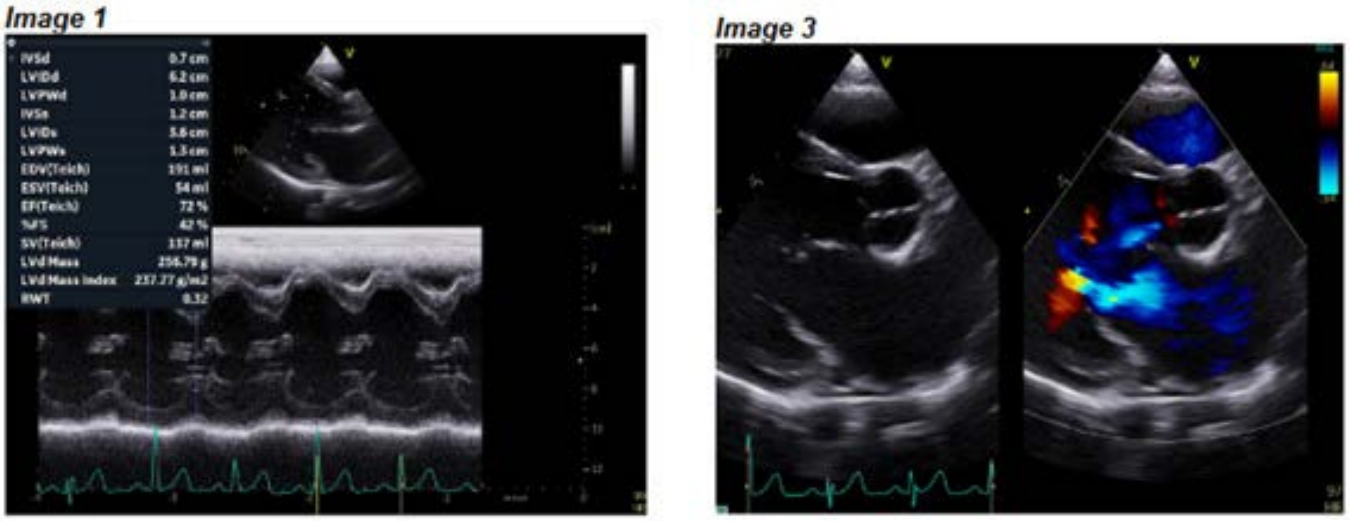
General practitioner of Mgr. Gabriel Manek, SVD Public Hospital of Atambua
Paediatric Department of Mgr. Gabriel Manek, SVD Public Hospital of Atambua
Paediatric Department of Kefamenanu General Hospital
Cardiology and Vascular Medicine Department of Mgr. Gabriel Manek, SVD Public Hospital of Atambua

Background: Acute rheumatic fever (ARF) is one of the most common causes of acquired heart disease in children. Atypical symptoms in early phase of disease and the limitations of diagnostic tests in rural areas cause diagnostic delay so that patients are often found in the advanced stages of disease. Herein we describe the successful treatment of patient with clinically definite cardiac failure caused by first episode of ARF.

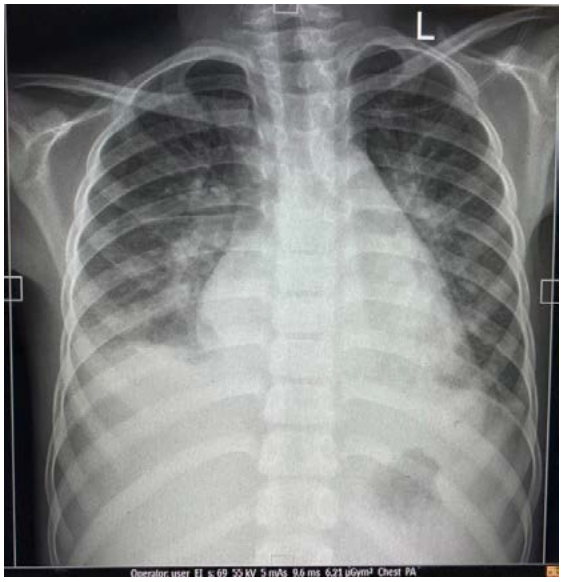
Case: 10-year-old boy presented to ER with 7 days of hyperpyrexia, chest pain, palpitation, and dyspnea. Patient has a history of frequent pharyngitis without advance workup and treatment. In physical examination there was elevated JVP, rales, murmurs of grade 3/6 and hepatomegaly. Laboratory test showed leukocytosis with ESR value at 84 mm/hour. Radiological examination revealed cardiomegaly, pulmonary congestion, and right pleural effusion. The patient was later diagnosed with probable RHD and CHF NYHA class III. After successfully referred on 6th day of treatment, this patient can undergo further diagnostic. The anti-streptolysin O titre was augmented at 800 IU/mL. The echocardiography confirmed pathological moderate aortic regurgitation and severe mitral regurgitation with morphological features of RHD. The patient then showed significant improvement after receiving fluid restriction, diuretics, ACE inhibitors, digoxin, steroid and oral antibiotic erythromycin as an eradication agent for group A streptococci. After 1 month follow-up, the patient showed significant improvement without any limitation of physical activity.

Conclusion: Healthcare professionals should immediately hospitalize patients suspecting RHD for accurate diagnostic and appropriate therapy. Thus, can provide patient for optimal treatment and secondary prophylaxis to have better outcome.

Keywords: Rheumatic Heart disease, Group A Streptococci, Heart Failure



Picture 1. Echocardigraphy: Pathological Moderate AR and Severe MR with Morphological Features of RHD



Picture 2. Chest X-Ray: Cardiomegaly, Pulmonary Congestion, and Right Pleural Efussion

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ATTACHMENT

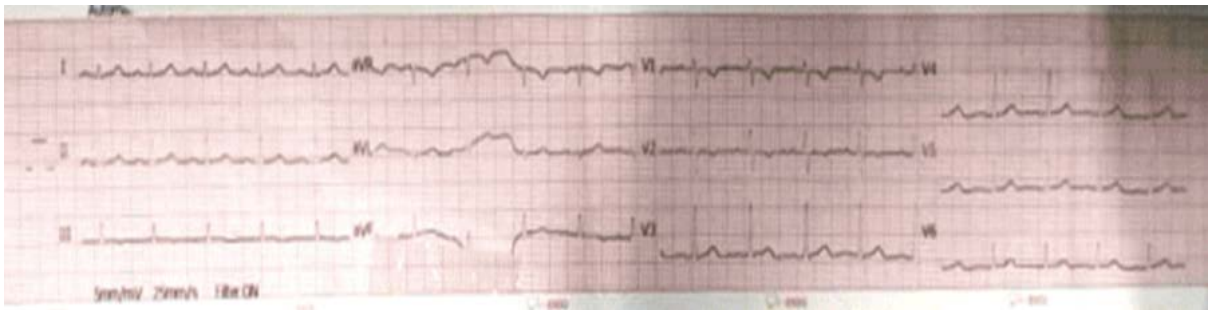

Figure 1. Electrocardiography : Lenghtening interval PR 0'20 seconds.

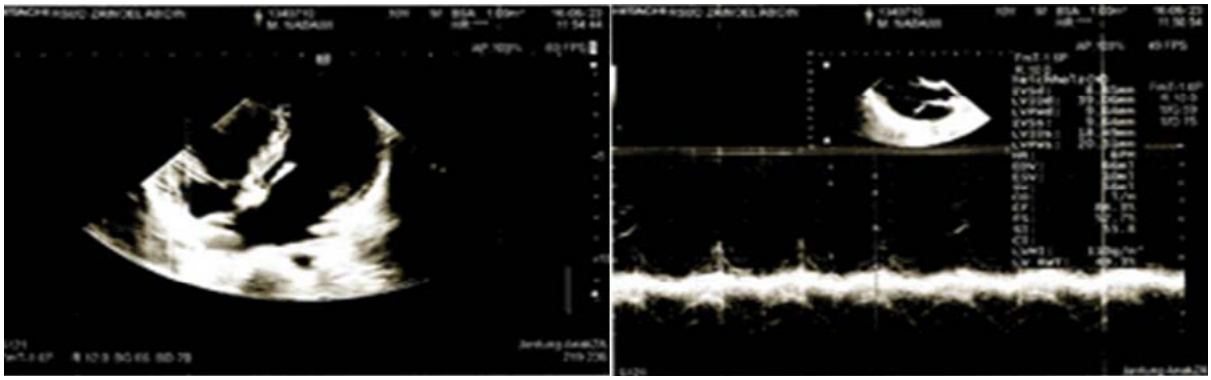

Figure 2. Echocardiography : Mitral Regurgitation

CAR 21

Various Complications of Patent Ductus Arteriosus and Coarctation of the Aorta in a 1-Year-Old Girl Treated at a Tertiary Hospital

Kamal, Mochamad Rifqie Nugraha, Pratiwi, Rahmatika Gita, Fadhilah, Idham

General Practitioner at dr. H Karmini Hospital Tasikmalaya, West Java, Indonesia
Pediatrician at dr. H Karmini Hospital Tasikmalaya, West Java, Indonesia

Introduction:

Patent ductus arteriosus (PDA) is a vascular connection between the descending aorta and the pulmonary artery. A left-to-right shunt through the PDA increases hydrostatic fluid filtration into the lung's interstitium, resulting in congestive heart failure, recurrent pneumonia, and failure to thrive.

Case Illustration:

A 1-year-old girl presented with complaints of shortness of breath, accompanied by fever, cough and growth failure. The patient had a medical history of PDA, coarctation of the aorta, failure to thrive, and four prior hospitalizations due to recurrent pneumonia. On examination, the patient appeared alert, blood pressure was 90/60 mmHg, heart rate was 145 beats per minute, respiratory rate was 55 breaths per minute, the temperature of 37.9 degrees Celsius, and 92% oxygen saturation on room air. The body weight was 6.4 kg and the height was 73 cm. Physical examination revealed nasal breathing, intercostal retractions, crackling sounds in both lung fields, and a continuous murmur grade III/6. The blood test indicated leukocytosis (27,400/mm^3). Chest x-ray revealed cardiomegaly with enlargement of the right ventricle and left atrium, along with bronchopneumonia. The most recent echocardiography showed a small PDA and moderate aortic coarctation. The patient's management included oxygenation, furosemide, bisoprolol, ampicillin, and gentamicin. After seven days of hospitalization, the patient's condition stabilized.

Conclusion:

Recurrent pneumonia, congestive heart failure, and failure to thrive continue to pose challenges in children with PDA before surgery. Long waiting times for surgery often necessitate multiple hospitalizations due to recurrent pneumonia and congestive heart failure.

CAR 22

Profile Infective Endocarditis in Children: Case Series

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Objective: Infectious endocarditis (IE) is the inflammation of the endocardium and or valve which leads to the formation of thrombi (vegetations) growth and damages the endocardium tissue and/or valves. IE an rare condition, that is even more uncommon children. The incidence of pediatric IE has been estimated to be 0,43-0,69 Cases per 100.000 children /years. The risk factors for the occurrence of endocarditis in children are: Congenital Heart Disease, Vulnerable: Acquired Risk Factors, Vulnerable: Acquired Risk Factors, Previous Healthy. The most common cause of infective endocarditis in children is congenital heart disease.IE is diagnosed based on the modified Duke criteria, combine clinical manifestation, echocardiographic, and microbiological findings. Antibiotic of choice for IE (Infective Endocarditis) varies depending on the causative organism, the severity of the infection.
Case We present 4 Case series due to IE start from December 2022-June 2023. there were 3 girls and 1 boy, only one has no congenital heart disease. 2 patients have passed away, and two patients still survive, two patients have be malnourish. We sought predisposition of IE. All the patient was diagnosed with IE based on clinical manifestation and echocardiography showed vegetation, after given antibiotic therapy the vegetation size decreased confirmed by echocardiographic.
Conclusion: Infective Endocarditis is a severe condition associated with serious complications and high mortality, in children. The rate of complications is higher in patients with congenital heart disease with dilated cardiomyopathy
Key Words: Infective endocarditis, Congenital heart disease, Dilated cardiomyopathy

CAR 23

PDA Stenting in Pulmonary Atresia with Ventricular Septal Defect, Atrial Septal Defect, Patent Ductus Arteriosus, and Malposition of The Great Arteries

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Objective: Congenital heart disease is one of the most common diseases with a prevalence of 0.8 to 1.2% of live birth worldwide. A precise diagnostic approach needs to be done as early as possible to manage the possibility of critical congenital heart disease. Early management should be performed immediately when the diagnosis is known.

Case: A baby was born by cesarean section due to the result of the fetomaternal ultrasound showing an atrioventricular septal defect. After birth, the baby had cyanosis that cannot disappear with oxygen. She was born with a dysmorphic face and labiognatopalatoschizis. From the physical examination, she had a pansystolic murmur, grade 3/6, punctum maximum at 3rd and 4th intercostal space, left parasternal line, radiating along the left sternal edge, coarse quality. Rontgen thoracoabdominal showed cardiomegaly and echocardiography showed there was pulmonary atresia with ventricular septal defect, atrial septal defect, patent ductus arteriosus, and malposition of the great arteries. She got prostaglandin E1 before the PDA stenting was done to keep the PDA open. The echocardiography after the procedure of PDA stenting showed a patent.

Conclusion: PDA stenting is a key to allowing the oxygenated blood to flow throughout the body and it is an emergency to keep the baby alive. PDA stenting makes the PDA open, providing nutrition to the pulmonary arteries so it can function properly and the size can increase. This is a prior therapy before the corrective surgery.

Keywords: PDA stenting, PA-VSD, ASD, PDA, malposition of great arteries.

CAR 24

Mitral Valve Replacement in Adolescent Rheumatic Heart Disease Patient: A Case Report

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Objective: Rheumatic heart disease (RHD) is a permanent heart damage that occurs due to inadequate treatment of streptococcal infections. Severe heart valve disorders may occur in RHD and are life-threatening. Heart valve surgery is needed in these conditions to improve prognosis and provide a better quality of life. This Case report aims to present a Case of heart valve surgery in an adolescent with RHD with severe valvular damage.

Case: A 17-year-old male patient came to the emergency room with dyspnea. He had been diagnosed with RHD three months earlier and suffered recurrent heart failure. He received monthly benzathine penicillin therapy. Echocardiographic examination showed tears, severe prolapse of the anterior mitral valve, severe mitral regurgitation, and mild tricuspid regurgitation. The patient then underwent mechanical valve replacement. At two months post-surgery follow-up, there were no symptoms of heart failure. Echocardiographic examination showed improved mitral valve regurgitation and heart function with FS 20.2% EF 34% to FS 44.0% EF 74.3%. The patient continued taking lifelong warfarin.

Conclusion: Heart valve surgery in RHD is a therapeutic option to improve prognosis and quality of life.

Keywords: mitral valve prolapse, mitral valve replacement, rheumatic heart disease,

CAR 25

Kawasaki Disease in A Child

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Background: Kawasaki disease (KD) is an acute, self-limited febrile disease of unidentified cause that mostly affects children less than 5 years of age. It is the leading cause of acquired heart disease in developed nations and is slowly bypassing rheumatic heart disease in developing countries. Timely initiation of management for KD has proven its efficacy in securing favorable long-term diagnosis. Untreated KD may lead to the development of coronary artery aneurysms which may cause sudden cardiac death in children.

Case: We reported a Case of 2-years-old girl with a complete KD. She came with complaints of fever for 7 days and swelling of hands and feet. On physical examination found bilateral conjunctival injection, cracked red lips, strawberry tongue, lymphadenopathy colli sinistra, swelling of hands and feet with erythema of the palms and soles. She meets all diagnostic criteria for complete KD. Laboratory examination showed mild anemia, leukocytosis, and high CRP. Echocardiography result showed mild tricuspid insufficiency, with diameter of RCA 2.27 mm, LCA 2.6 mm and LMCA 2 mm. Patient treat with IVIG 2 g/kgBW/d, aspirin 80 mg/kgBW/d, and other supportive care.

Conclusion: A Case of Kawasaki disease has been reported in a child with typical clinical symptoms and fulfilling the diagnostic criteria for complete KD. Patients were treated with primary and supportive therapy and demonstrated clinical and laboratories improvement. The patient was discharged in a stable condition and without complications. Long-term management and follow up need to prevent cardiac complications and better prognosis.

Keywords: Kawasaki Disease, IVIG, strawberry tongue

CAR 27

Acute Rheumatic Fever with Subclinical Carditis in a 17-Year-Old Child without a Clear History of Group A Streptococcus Infection

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Background: Rheumatic heart disease (RHD) remains a major cause of preventable cardiovascular death and disability in children and young adults, as a result of recurrence or untreated acute rheumatic fever (ARF). The global incidence of RHD and ARF declined, but it remains endemic in low- and middle-income countries.
Case: A 17-year-old boy was admitted with complaints of fever, mild cough, body aches, and lack of appetite. He was initially diagnosed with typhoid fever with S. Typhi O 1/320. After 7 days of hospitalization and administration of antibiotic, he still had fever. He underwent additional laboratory tests, showing an elevated c-reactive protein, erythrocyte sedimentation rate, and anti-streptolysin O titer. Although there was no murmur found in physical examination, the echocardiography showed a mild mitral regurgitation. He matched the revised Jones criteria and was diagnosed with ARF with subclinical carditis. A three-weekly intra muscular 1.2 million IU Benzathine Penicillin G was started. After 2 days being observed, he was discharged in good condition.
Conclusion: Many sore throats leading to ARF can remain asymptomatic. Carditis in ARF can also be subclinical, meaning there is an involvement of the valves found in echocardiography but remains normal in physical examination. The Jones criteria is being revised in 2015 to add the subclinical carditis as the major manifestation, and creates a possibility to differentiates manifestations based on an individual's populations. The diagnosis is made when there is a proof of Group A Streptococcus infection in laboratory test together with 2 majors, or 1 major with 2 minors.

Keywords: acute rheumatic fever, children, Jones criteria, rheumatic heart disease, subclinical carditis

ITD-2-03

Epidemiological And Clinical Findings Of Pediatric Patients With Varicella At Dr. Soetomo General Hospital

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Background/Objective: Varicella is a common viral infection caused by Varicella Zoster Virus that mostly affects children. Although most varicella Cases were mild, some children with comorbidities could have severe complications. The aim of this study was to analyze the epidemiological and clinical findings of varicella pediatric patients at Dr. Soetomo Hospital from 2018 until 2023.
Methodology: This cross-sectional medical record based study recruited pediatric patients with varicella from January 2018 to July 2023. We collected epidemiological data and clinical manifestations. The ethical clearance was issued by Health Research Ethical Committee of Dr. Soetomo Hospital.
Results: The study encompassed 65 participants, with an average age of 7.12 ± 4.88 years. The majority were male (53.8%) and hailed from a city other than Surabaya (73.8%). Nearly all varicella Cases were associated with underlying conditions (95.4%), predominantly malignancy (63.1%), followed by autoimmune disease (9.2%). The prevailing main symptom usually involves the existence of vesicles (95.4%) and often accompanied by fever (21.5%).
The laboratory results showed the mean hemoglobin, white blood cell, platelet, and hematocrit were 10.58g/dL, 31.59x10^3, 16.02x10^3, and 221.52%, respectively. Only 18.5% showing complications such as encephalitis (4.6%) and pneumonia (4.6%). The median length of stay was 10 days.
Conclusion: Pediatric patients with varicella at Dr. Soetomo Hospital were mostly male and had malignancy. Complications were observed in 18.5% of Cases, including encephalitis and pneumonia.

Keywords: varicella, pediatric, epidemiological and clinical findings, complications, Dr. Soetomo Hospital.

ITD-2-05

Tetanus in Children: Addressing Vaccine Hesitancy

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Objective: Tetanus is a preventable vaccine disease. Although people of all ages may be affected, the highest prevalence is found in newborns and young people. Low immunization coverage is one of the risk factors.

Case: A 1-year-10 months-old boy presented to the emergency room with a chief complaint of general spasm without loss of consciousness in the last ten days before admission. On physical examination, there were excitatory seizures, moderate trismus, *risus sardonicus*, opistotonus, and mild dysphagia. His parents never had him vaccinated due to their hesitancy. His parents think that vaccines can be harmful to their children. Multiple dental caries was suspected as the infection focus, port d'entrée in this Case. Patient was treated with human tetanus immunoglobulin (HTIG) 3000 international units and diazepam 0,3 mg/kilogram body weight/3 hours. Diazepam should be tapered gradually if the trismus improved. Metronidazole, loading dose 15 mg/kilogram body weight and maintenance dose 30 mg/kilogram body weight/day for 14 days, was given to eradicate the bacteria. He recovered after 16 days of hospitalization, was planned to have catch-up vaccination upon discharge and also control to the dentist. DPT vaccination should be administered 6 weeks after receiving HTIG. The prognosis (*quo ad vitam*, *functionam*, and *sanationam*) for this Case were bonam.

Conclusion: Tetanus remains a problem in a setting where immunization coverage is suboptimal. Vaccine hesitancy owing to misleading information is a challenge on its own. Infection focus should be explored and appropriately treated and catch-up immunization should be completed.

Keywords: Tetanus, spasm, port d'entre, vaccine hesitancy

ITD 25

Risk Factor for Candida Growth Among Children in Dr. Moewardi Hospital

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Background: Prolonged use of antibiotics, invasive catheters, total parenteral nutrition (TPN), surgery, length of treatment, and duration of care in pediatric intensive care unit (PICU) can lead to candida growth. This study investigated the risk factors associated with candida growth in pediatric in Dr. Moewardi Hospital.

Methodology: A cross-sectional study was performed in hospitalized pediatric patients undergoing culture examination due to suspected fungal infection in Dr. Moewardi Hospital, Surakarta in 2022. Data regarding risk factors and cultures of blood, urine and sputum were taken from patients' medical records. The data were statistically analized with Chi-square test followed by logistic regression analysis, and $p<0.05$ with CI 95% was considered significant.

Results: There were 37 subjects undergoing culture examinations, of these 18 subjects (48.6%) had candida growth in which Candida parapsilosis was the most common fungal species (n=10; 55%). Bivariate analysis obtained the use of antibiotics ≥ 7 days (p=0.000), the use of invasive catheters (p=0.007), the use of TPN (p=0.004), and the length of treatment ≥ 14 days (p=0.001) significantly related to the growth of Candida. Multivariate analysis revealed that the use of TPN (OR=11.46, 95% CI=1.154-113.70, p=0.038) and antibiotic administration of ≥ 7 days (OR=46.79, 95% CI= 3.38-647.71, p=0.004) were significant risk factor for candida growth.

Conclusion: In hospitalized pediatric patients suspected for fungal infection, antibiotic administration of ≥ 7 days and the use of TPN are risk factors for candida growth.

Keywords: Risk factors, Candida, Children

ITD 60

Risk Factor Associated with Bacteremia in Children with Acute Lymphoblastic Leukemia with Febrile Neutropenia

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Background/Objective: Febrile neutropenia (FN) is one of early indicator of infection in Acute Lymphoblastic Leukemia (ALL). This study was aimed to determine the risk factors correlated with bacteremia in pediatric ALL patients experiencing FN.

METHODS: A retrospective study was conducted in Saiful Anwar Hospital Malang. Pediatrics patient diagnosed as ALL with FN were enrolled in this study. Demographic data, complete blood count, procalcitonin serum level and blood culture were collected. Subjects were classified into bacteremia and non-bacteremia. Data analysis were performed by IBM SPSS for windows program version 26, with $p < 0,05$ was considered significant.

Results: There were 39 children fulfilled the criteria, with the mean of age 5.83±4.03 years, including 20 males and 19 females. All patients received chemotherapy protocol according to national protocol 2018 for childhood ALL. Bacteremia was found in 65.5% subject, with the isolated bacteria including *P.aeruginosa*, *K.pneumonia ESBL, E.coli ESBL, S.aureus, S.aureus MRSA, S.hominins* and *Stenotrophomonas malthophilia*. There were no significant difference between demographic parameters in bacteremia compare to non-bacteremia groups ($p>0.05$). Absolute neutrophil count (ANC) was significant lower in bacteremia group compared to non-bacteremia group (138.42±154.35; 190.25±139.13; $p=0.002$, respectively). Procalcitonin was significant higher in bacteremia group (37.81±38.95; 3.26±3.95; $p=0.000$, respectively). ANC $<200/mm^3$ and procalcitonin >5 mcg/L were correlated significantly with incidence of bacteremia (OR[95%CI] 2.7445[0.437-17.263], $p=0.042$; OR[95%CI] 20.579[2.259-87.491] $p= 0.007$, respectively).

Conclusion: Low ANC and high procalcitonin level were correlated with incidence of bacteremia in children with ALL and febrile neutropenia.

KEYWORDS: ANC, Procalcitonin, Bacteremia, ALL, Febrile neutropenia

ITD-2-08

Successful Tetanus Therapy in a 16-year-old Boy with Penicillin Benzathine and Underdose Anti Tetanus Serum in a Limited Resource Settings

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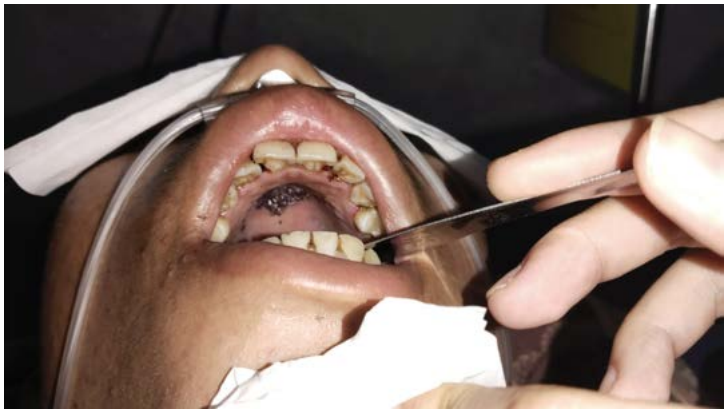
Objective
Tetanus remains a burden in low-middle-income countries due to low immunization coverage and limited healthcare facility.

Case
A 16-year-old boy presented to the emergency department with trismus, dysphagia, and six times generalized tonic seizures prior to hospital. He had two seizures in the emergency department. We found that he could open his mouth only two digits and discovered dirty wounds on the palate. He had history of picking his palate and was unaware of any injuries to the palate.
The patient was treated in an isolation room with minimal lighting and noise. Penicillin Benzathine was used as an alternative therapy due to Penicillin Procaine unavailability. Metronidazole and other antibiotics were also administered as adjunctive therapy. The patient obtained intravenous diazepam therapy, dexamethasone, gargle liquid, and inadequate doses of Anti Tetanus Serum (ATS) due to limited availability. The skin test result for ATS was positive. We subsequently administered the ATS half doses every half an hour.
The patient had no seizures on the third day of treatment. He began to partially open his jaw slightly wider on the sixth day of treatment. He began to improve on the tenth day. He could sit, walk inside the room, and eat porridge. The patient was discharged from the hospital on the fifteenth day of treatment with oral antibiotics and diazepam as further therapy at home. We arranged for the patient to return one month later for follow-up.

Conclusion
There is a need for innovative tetanus management in limited healthcare resources.

Keywords
Tetanus, Penicillin Benzathine, Anti Tetanus Serum



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ITD-2-09

Congenital Ayphilis: A Case Series.

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Objective: Syphilis remains a global problem with an estimated 12 million people infected each year, despite the existence of effective and inexpensive treatment options. Mother-to-child transmission of syphilis (congenital syphilis) is usually devastating to the fetus if maternal infection is not detected and treated sufficiently early in pregnancy. In 2012, an estimated 350 000 (three hundred and fifity thousand) adverse pregnancy outcomes worldwide were attributed to syphilis, including 143 000 (a hundred fortythree thousand) early fetal deaths/stillbirths, 62 000 neonatal deaths, 44 000 preterm/low-birth-weight babies and 102 000 infected infants. The purpose of this Case presentation is to address that the opportunity given to us to prevent congenital syphilis is widely open. We reported 3 confirmed Cases of congenital syphilis.

Case ILLUSTRATION: We reported confirmed Cases of congenital syphilis (CS). No adequate treatment was given to the mother during the pregnancy. All the newborn presenting with no spesific features of congenital syphillis. The physical examination of all three patients shows no spesific result. Neverthless, in all three Cases, the RPR and TPHA were reactive both in mother and the baby. The baby RPR titer was fourfold than the mother. The CSF evaluation of the baby was conducted. The result was reactive too. There is only one Case presenting with osteitis and periostitis. We treated all the Cases with penicillin procaine given intramuscular for 10 days. The outcome of the all the patient was good.

Conclusion: More than 60% of infected infants are asymptomatic at birth. Despite the facts that CS is preventable, there are several things that could be a threat. Generally, the diagnosis and initiation of treatment for CS are based on detailed history-taking, physical examination, previous serological tests, maternal medication use, and serological assays of the newborn and mother at the time of deliver. It has been clearly shown that screening of pregnant women for reactive syphilis serology, followed by treatment of seropositive women, is a cost effective, inexpensive, and feasible intervention for the prevention of congenital syphilis and improvement of child health.

Keywords: congenital shyphilis, penicillin procaine

ITD 05

Diagnostic Approach and Management of Staphylococcal Scalded Skin Syndrome in Limited Resources Hospital: A Case Report

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Background/Objective. Staphylococcal scalded skin syndrome (SSSS) is a dermatosis caused by exfoliative toxin released from Staphylococcus aureus. The clinical features comprise erythematous patches, skin blisters that cause a burning pain. This report aims to describe the clinical findings, diagnosis confirmation, and management of antibiotic in limited resources hospital.

Case. A 14-days old girl was hospitalized in Cimacan District General Hospital because of suffering from erythematous lesions over the face. The lesion started behind the ear and spread to the face and the neck within two days. There was no history of administration of any drugs after birth. On the physical examination, the child was febrile with erythematous lesions around the mouth, nose, and over neck. The oral mucosa was normal. Skin biopsy and blood culture cannot be performed because of the limited facility at the hospital. Gram staining collected from the cutaneous lesions on the day of admission yielded a pure growth of Staphylococcus aureus. The antibiotic treatment was ampicillin intravena, acetaminophen for fever and pain, supportive care with saline moisted dressing, emollient cream, and topical antibiotic (gentamicin sulfate 0.1%). The lesions healed over the next three days and no new lesions were observed. The child became afebrile and was feeding well.

Conclusion. SSS is an infectious disease that can be treated in limited resources. Early diagnosis and appropriate treatment is very important in order to prevent further complication.

Keywords: Staphylococcal scalded skin syndrome, Staphylococcus aureus, exfoliative toxin, SSS.

ITD 07

Herpes Zoster in Infancy: A Case Report

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Background:
Herpes zoster in infancy or early childhood is rare and typically results from the reactivation of varicella zoster virus acquired during pregnancy or early infancy while protected by maternal antibodies. Most childhood Cases occur after age 5.

Case:
A 3-month-old female infant was referred to Cipto Mangunkusumo General Hospital for seizures caused by an intracranial abscess. The abscess was surgically removed and the patient was admitted to the ward for a 42-day course of intravenous antibiotics. During monitoring, vesicles emerged on the infant's right arm: small fluid-filled blisters on an erythematous base, following the dermatomal distribution characteristic of herpes zoster. Two months before admission, she had a fever with a vesicular rash, likely contracted from her older brother who lived in the same house. Her brother showed similar symptoms a week before the patient, which resolved spontaneously after 8 days. The infant had a healthy twin sister, and there was no history of zoster infection from her mother during pregnancy. Evaluation of the patient's immune status indicated she was immunocompetent with no signs of immunodeficiencies. Prompt treatment with acyclovir, an antiviral, was initiated for 2 weeks, leading to rapid resolution of the lesions, obviating the need for a Tzanck test.

Conclusion:
Herpes zoster in infancy is rare, warranting careful evaluation and history-taking to confirm previous varicella infections. Evaluation of immunodeficiencies and other comorbidities is essential. Herpes zoster in infancy requires prompt recognition, management, and monitoring to ensure the best outcomes for affected infants.

Keyword: Herpes zoster, Infancy, Immunodeficiency

ITD 15

Clinical Challenges of Diagnosing Rheumatic Fever in Limited Facility

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Background: Acute rheumatic fever (ARF) is a delayed sequela of infection due to group A beta-hemolytic *Streptococcus* (GABHS) affecting the heart, joints, central nervous system, and subcutaneous tissues. The incidence of ARF is 8 to 51 per 100,000 people globally. The suspicion of ARF among healthcare providers may be low due to decreasing disease incidence, particularly in some areas with limited facilities.

Case: A six-year-old boy presented to the Emergency Department with a fever and migratory polyarthralgia for six days. He had had a recurrent, high-grade continuous fever and cough for six months. An erythema marginatum on the trunk and multiple pyodermas were found on the bilateral lower leg. Laboratory examination was notable for leukocytosis, increased acute phase reactants, and positive anti-streptolysin O. No heart abnormality was found on ultrasonography. ARF was established. The patient was treated with penicillin G benzathine and aspirin. He was also referred to a tertiary hospital for further examination and management.

Conclusion: ARF must be considered as a working diagnosis when dealing with prolonged fever. The diagnosis is challenging in facilities with limited echocardiography availability. Undertreatment of GABHS pharyngitis or pyoderma may lead to the development of ARF. Parents must be educated regarding the potential recurrent attack of rheumatic fever, which may lead to severe rheumatic heart disease requiring extended antimicrobial therapy.

Keywords: Acute rheumatic fever, GABHS infection, Jones criteria, limited facility diagnosis.

ITD 17

Case Report: An Outbreak Circulating Vaccine-Derived Poliovirus Type 2 (cVDPV2), The First Case After Indonesia Received Polio-Free Certification

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Objective : Indonesia received a polio-free certification in 2014. On November 12, 2022, Indonesia's Ministry of Health notified WHO of a confirmed Case of circulating vaccine-derived poliovirus type 2 (cVDPV2) with acute flaccid paralysis (AFP) from Mane Village, Pidie district, Aceh Province. VDVP is a strain of poliovirus mutated from OPV and may spread in communities that are not fully vaccinated, especially in unhealthy environments. Aceh Province has very low bOPV and IPV vaccination coverage; for Pidie district, the coverage was 17.7% (bOPV3) and 0.5% (IPV).

Case: A 7-year-old boy was admitted to Tgk Chik DiTiro Hospital with flu-like symptoms and weakness of the lower limb three days before admission. Neurologic examination revealed reduced strength of the left extremities, areflexia, no meningeal sign, or sensory impairment. He never received polio vaccination and had no history of travelling or contact with those who had travelled. His family uses the river and public restrooms for their daily needs. A stool specimen was confirmed to be cVDPV2 and genetic sequencing results showed 25 nucleotide changes. The patient received symptomatic treatment and physiotherapy. The Ministry of Health publicly announced the outbreak and held two rounds of polio vaccination with nOPV2 for children 0–12 years of age in Aceh Province.

Conclusion : The diagnosis of poliomyelitis was established by AFP surveillance, and virus isolation was later confirmed by genomic sequencing. Even though Indonesia is a polio-free country, strong AFP surveillance and efforts to maintain herd immunity with high polio immunisation coverage must continue.

Keywords : Aceh Province, cVDPV2, Outbreak, and Poliomyelitis

ITD 23

Neurosyphilis Congenital at an Early Age: Silent Manifestation. A Case report

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Background: Syphilis in pregnancy has increases in the last five years, nevertheless only 50% who received treatment. Adequate treatment of pregnant women is crucial to prevent vertical transmission. A child of a mother with inadequate treatment should undergo congenital syphilis evaluation to prevent the sequalae of neurosyphilis later in life.

Case: A two-month-old baby was referred to outpatient clinic with congenital syphilis. Her mother was diagnosed with syphilis in the third trimester but did not receive adequate syphilis therapy due to allergic reaction. She was born aterm with 2700 grams by caesarean section. She was tested for syphilis at the age of 7 days with TPHA result 1/320; yet she was not being treated as congenital syphilis. Anamneses and physical examination were unremarkable for syphilis manifestation, including complementary eye and ear examinations. Laboratory findings revealed normal hemoglobin, platelets, liver, and renal function test. Head CT scan with contrast and long bone radiography did not show abnormalities. LCS analysis indicated a non-reactive RPR, but revealed xantochromic discoloration, high protein level, and high PMN count. Those results are inclined to neurosyphilis diagnosis. She was discharged after completing Procaine Penicillin G 50,000 IU/kgBB IM daily for 10 days.

Conclusion: Syphilis infection in neonates is asymptomatic in up to 2/3 of Cases which makes the diagnosis challenging. Therefore, early detection examinations for mothers and thorough laboratory examinations for infants are needed with suspected congenital syphilis. Silent manifestation in the nervous system does not rule out neurosyphilis itself, but can be diagnosed through LCS analysis.

Keyword : Syphilis Congenital, Neurosyphilis, LCS Analysis, Silent Manifestation and TPHA

ITD 33

Neonatal Sepsis Complications on Gastrointestinal

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Background: Neonatal sepsis is one of the infectious diseases in newborns that is still a major problem and one of the leading causes of morbidity and mortality in neonates. The disease often goes undetected and causes death. The diagnosis and treatment of neonatal sepsis is still a problem nowadays. Gastroenteritis in neonatal sepsis is difficult to cure and is one of the life-threatening conditions.

Case: An infant girl was brought to Wangaya Hospital with history of watery stool more than 10 times/day. The patient also vomited more than 10 times/day, had a history of high fever since 2 days and had 2 seizures with a duration of about 5 minutes when fever at home. On arrival at the ER on physical examination, both eyes were found to be droopy, there were subcostal retractions and increased bowel sounds, with capillary refill time more than 3 seconds and cutis marmorata appearing on the skin. It was unclear when the patient last urinated. The dehydration was corrected according to the protocol for mild to moderate dehydration. Laboratory results showed anemia, leukocytosis, thrombocytosis, hyperkalemia, and CRP increased to 13. The patient received cefotaxime antibiotic then replaced it to meropenem, transfusion of packed red cells, ventolin nebulizer to correct hyperkalemia. The patient was discharged after being treated for 2 weeks.

Conclusion: Neonatal sepsis with gastrointestinal complications requires more difficult management. In low-income countries, where facilities as a whole are not available, a systematic approaches needs to be develop to reduce sepsis-related mortality with gastrointestinal complications.

Keywords: Neonatal Sepsis, Gastrointestinal, Gastroenteritis

ITD 34

Lymphatic Filariasis Presenting as Lower Limbs Lymphoedema in A Paediatric Patient with Marasmus in Malaka Regency, East Nusa Tenggara

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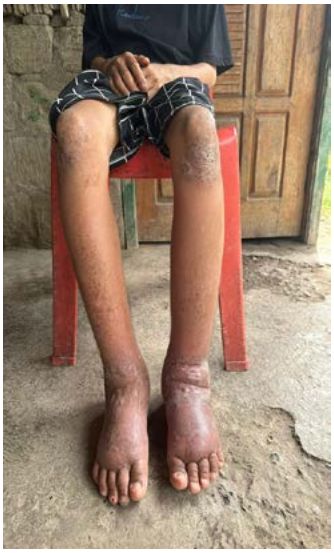
Background: WHO aims to eliminate lymphatic filariasis (LF) by 2020. A significant progress has been made but the initial target was not achieved. There were 12.677 Cases of LF in Indonesia, 2.864 of them are found in East Nusa Tenggara. Indonesian government had implemented a round of mass drug administration which has been recommended by WHO to eliminate filariasis for two years old population or above. People who are suffered from LF usually have no clinical manifestation until adults. This rare Case report found a lymphoedema Case was caused by LF in a 14-year-old male with marasmus.

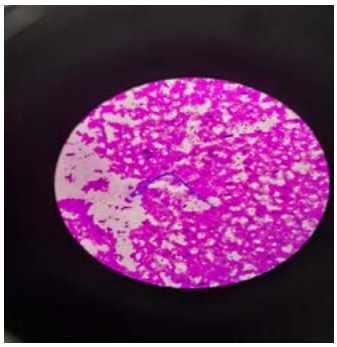
Case: A 14-year-old male with chronic progressive lymphoedema of lower extremities. Anthropometric measurements revealed length LFA <P5, WFA <P5, IBW 55,64%, and UAC <P5. From physical examination, showed both lower extremities have non-pitting oedema that inferred an elephantiasis and no hydrocele. The McLaren score is 3. Through night blood smear with Giemsa stain examination, it confirmed the character of *Brugia timori* microfilaria due to has stiff curved with pointy end tail and no sheathed was found. With a similar examination, there was no evidence of circulating microfilaria after two weeks of this patient initial diagnosis following prescribed treatment with Diethylcarbamazine and Albendazole. He also gained weight of 2.8 kgs after nutritional intervention in hospital.

Conclusion: Paediatric patient rarely had lymphoedema of limbs caused by LF infection. A traditional combination of Diethylcarbamazine (DEC) and Albendazole is still effective for this patient. Furthermore, this new Case of LF should become the government's matter of interest.

Keywords: *Brugia timori*, Children, Lymphatic Filariasis, and Lymphoedema



Lymphoedema of right and left lower extremities.



A night blood smear showing Brugia timori (Giemsa stain with 10x oil magnification)

ITD 45

Measles-Associated Myocarditis

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Objective: Measles is a vaccine-preventable viral disease caused by morbillivirus. According to CDC (2023), there are 36 Cases per 1 million persons each year and about 134.200 death Cases. During COVID-19 pandemic, measles vaccine coverage in Indonesia declines from 87.33% (2018) to 70.14% (2022). This leads to a new outbreak with approximately increase 32-fold in 2022. Although it is estimated that 1-5% of patients with acute viral infections have myocardial involvement, only three Cases of measles-associated myocarditis in children had been reported in the previous thirty years. Furthermore, the mortality rate of myocarditis in children can reach up to 25% and approximately 25% patients progressively worsen to heart failure.

Case: A 3-year-old unvaccinated girl presented with altered mental status, fever, cough, coryza, and shortness of breath in ER. The patient also experienced acute conjunctivitis and a generalised erythematous maculopapular rash. The suspicion of measles infection was diagnosed by clinical features and two positive contact histories. On physical examinations, we found persistent tachypnea regardless of body temperature, systolic murmur, and cardiomegaly suggested myocarditis. Laboratory finding showed high NT-pro-BNP (9898 pg/mL). Chest X-ray revealed cardiomegaly with pulmonary oedema and pneumonia. ECG changes suggested inverted T waves in lead V4-V6 and sinus tachycardia. She also had mild mitral and tricuspid regurgitation on echocardiography.

Conclusion: Due to COVID-19 pandemic, number of measles Case is continuously increasing in Indonesia. Without immunization, it can lead to one of cardiac complications – myocarditis. Early recognition, isolation of patients and registration by the certified boards help to limit outbreaks.

Keywords: Children, Maculopapular rash, Measles, Myocarditis, Vaccination

ITD 50

Challenges in Diagnosing Staphylococcal Toxic Shock Syndrome in COVID-19 Pandemic Era

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Background: Staphylococcal Toxic Shock Syndrome (STSS) is a rare clinical condition caused by immunological reaction due to Staphylococcus aureus' toxin. High fever, hypotension, diffuse rash, and multiple organ dysfunction are main features of STSS, which is similar to Multisystem Inflammatory Syndrome in Children (MIS-C), causing medical practitioners to often misdiagnose, especially in COVID-19 pandemic.

Case: A 13-year-old girl with history of failed multiple IV line insertion was referred to Cipto Mangunkusumo Hospital to get follow up examination due to suspected extended dengue fever. During hospitalization, the patient was feverish, had refractory shock, and developed diffuse rash despite it was eight days since the onset of fever and received proper treatment. Laboratory result showed bicytopenia and high C-reactive protein (CRP). Having contacted positive COVID-19 patient before, the patient was thought to get MIS-C and was given Intravenous Immunoglobulin (IVIG) and antibiotics. Later, blood culture showed *Staphylococcus aureus* and MIS-C diagnosis was dropped, replaced by STSS. Treatment with IVIG and antibiotics showed massive improvement in patient's condition.

Conclusion: Staphylococcal Toxic Shock Syndrome can easily be misdiagnosed and overlooked due to similarity in clinical features with other diagnosis. Building awareness to STSS can help medical practitioners make early diagnosis dan proper treatment.

Keyword: STSS, MIS-C, IVIG, antibiotics

ITD 54

MIS-C Mimicking Dengue Fever in Endemic Era of COVID-19

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Background: Multiple inflammatory syndrome in children (MIS-C) is a complication caused by COVID-19, reported in less than 1 percent of children with confirmed SARS-CoV-2. MIS-C has various non-specific presenting symptoms such as fever, rash, and/or specific organ involvements' symptoms. Therefore, in a setting in which SARS-COV-2 infection is no longer routinely examined, diagnosis of MISC may be missed. This Case reports an MIS-C Case in an 11 year old girl with a presenting manifestation mimicking dengue fever.

Case: The patient admitted on day 3 of persistent fever. There were also complaints of nausea, vomiting and headache. Initial complete blood count done on day-3 of fever showed thrombocytopenia, negative NS-1, and normal hematocrit. The fever remained persistent after administration of broad spectrum antibiotics. There were also complaints of acute diarrhea and abdominal pain on day 5 of fever without plasma leakage evidence. Further investigation was in accordance with MISC criteria diagnosis: progressive pancytopenia, high levels of CRP (133,97) D-dimer (3,93), increased SARS–CoV-2 antibody (1739,1). There was no history of COVID-19 vaccination. We, therefore, treated her with IV methylprednisolone 2 mg/kg/day divided in 2 doses for 5 days and continued with oral regimen for 14 days. There were significant clinical and laboratory improvements after the first five days of methylprednisolone course. Normal laboratory results were achieved after 19 days of full dose methylprednisolone.

Conclusion: Beside dengue fever and serious bacterial infection, diagnosis of MIS-C should also be considered in children with persistent fever and multi-organ abnormality.

Keywords:
MIS-C, dengue fever, COVID-19

ITD 56

Challenges in Diagnosing Neonatal Skin Disorders: Multisystem Inflammatory Syndrome in Neonatal versus Infection

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Background: Pediatric Coronavirus disease-2019 (COVID-19) is generally mild or asymptomatic, but multisystem inflammatory syndrome in children (MIS-C) have high morbidity and mortality. MIS-C in neonate, known as multisystem inflammatory syndrome in neonatal (MIS-N), is hypothesised caused by either transplacental transfer of severe acute respiratory syndrome coronavirus-2 (SARS-CoV2) antibodies or antibodies developed in the neonate after infection with SARS-CoV-2. It has wide clinical spectrum and can mimic other diseases.

Case: A 10-day-old baby came to hospital with chief complaint both toes appear blackish since 5-day-old. There were redness and bullae at the buttocks to the legs since 3-day-old. There was history of COVID-19 vaccination and suspicion of COVID infection in mother during the second semester of pregnancy. Physical examination revealed fever, both lower extremities appeared multiple erosions of lenticular to plaque size, confluents with a cholaret squama at the buttocks region, both lower limbs, both feet, and necrosis on ten toes with fingernails still intact. Relevant laboratory results were negative SARS-CoV-2 polymerase chain reaction, positive SARS-CoV-2 antibody, leukocytosis, increased c-reactive protein and d-Dimer, and no proven source of infection. The diagnosis was MIS-N with skin and hematologic involvement. Patient received methylprednisolone as anti-inflammatory and wound care from department of dermato-venerology. During the observation, skin lesions was improved in line with improvement laboratory parameters.

Conclusion: MIS-N present with varied clinical manifestations, similar to sepsis and other causes. A wide spectrum of cutaneous manifestations are reported. Careful history taking and physical examination, proper diagnosis, and optimal management can significantly improve prognosis in patient.

Keyword: COVID-19, MIS-C, MIS-N, covid toes

ITD 65

Severe Influenza in Children

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Background
Influenza is an acute respiratory infection caused by influenza viruses. It's a highly contagious airborne disease with symptoms ranging from mild to respiratory failure and death, especially in persons with comorbidities.

Case
A 6-year-old boy was admitted to the hospital with a history of 4 days of fever, cough, and diarrhea. He had a history of epilepsy and atopic dermatitis. At first admission, the vital signs and physical examination were unremarkable. The CBC revealed leukopenia at 3,820/ml and thrombocytopenia at 62,000/ml. He was hospitalized due to suspicion of dengue infection, but the serology of dengue was negative, even though the CBC serials always showed thrombocytopenia. On day 6 of the fever, he developed trouble breathing. The respiratory rate was 40x/min with oxygen saturation 89%. A physical examination of his lung showed rales and mild retraction. Laboratory revealed pancytopenia with Hb 10.9 g/dL, leukocyte 3,690/ml, thrombocytopenia 65,000/ml, and monocytosis 14.3%. The second serology dengue test and Tubex test were negative. The CRP increased to 120.5 mg/L. Chest X-ray showed bilateral infiltrates. PCR influenza tests from a nasal swab were performed and revealed H1N1 2009 influenza infections. He was treated with oseltamivir, Ampicillin, and oxygen support, and the symptoms gradually improved. On 4th day of treatment, he was clinically improved, and the CBC was normal with Hb 11 g/dL, leukocyte 8450/ml, and thrombocytopenia 265,000/ml. He was discharged with good conditions and no sequel symptoms.

Conclusion
Influenza infection can be misdiagnosed and can be a fatal infection.

Keyword: severe, influenza, children

ITD 67

A Baby Girl with Neonatal Dengue and Late Onset Sepsis: A Case Report

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Objective : Neonatal dengue infection is usually rare. Vertical transmission occurs in neonates whose mothers suffer from dengue fever near the delivery time. We report the clinical characteristics, therapy, and outcome of patients with neonatal dengue.
Case: Female baby born from a 25-year-old mother with G1P0A0 and 33 weeks of pregnancy. The mother had dengue infection for five days before delivery, low thrombocyte and positive for IgG dengue. After birth, the baby was not crying immediately with an APGAR score of 2-3-4 and a birth weight of 1800 gram. Thrombocytopenia (122.000/L) was found since birth and positive IgM and IgG dengue. Clinical manifestations were fever, petechiae on the trunk and extremities, and bleeding from OGT on the second day. The baby was given 3 ml/kg/hour of ringer lactate, and the blood was evaluated daily. Platelets decreased by 7.000/L on the 3rd day and began to increase by 20.000/L on the 7th day of treatment. Blood culture present Klebsiella Pneumonia ESBL. On the sixth day of admission, the baby got a septic shock. She was diagnosed with neonatal dengue, late-onset sepsis, and neonatal shock. The baby was given fluid resuscitation, inotropic, and antibiotics based on a blood culture and sensitivity test. After 10 days of antibiotic administration, the clinical manifestation improved, and the patient could be discharged.

Conclusion: Neonatal dengue often causes severe manifestations and therefore requires intensive monitoring and correct hydration. The right management and supportive therapy were required to reduce mortality and avoid complications in neonatal dengue.

KEYWORDS: neonatal dengue, vertical transmission, late onset sepsis, neonatal shock.

ITD 70

Leech Bite: A Cause of Vaginal Bleeding in a Prepubertal Child

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Background: Vaginal bleeding due to leech bite is rare and may lead to complications, from mild hemorrhage to severe conditions like anemia and hypovolemic shock. Leech saliva contains an enzyme that has an anticoagulant effect that can cause prolonged bleeding. We report a Case of vaginal bleeding due to a leech bite.

Case: An 8-year-old girl came with vaginal bleeding for 8 hours after her mother forcefully detached a leech from her vagina. She reported swimming in a swamp three days before. She looked slightly pale with vital signs: blood pressure 95/64 mmHg, pulse 110 beats/min, and temperature 36.2°C; the other conditions were normal. A laceration of 1 cm in length and 0.5 cm in depth was found at the 7 o'clock position of the anterior vagina wall. Laboratory tests revealed hemoglobin 9.0 g/dL, white blood cell count 6,240 /mm^3, platelets 413,000 /µL, MCV 82 fL, MCH 27 pg, MCHC 30 g/dL, PT 14.2 seconds, APTT 36.9 seconds, and INR 1. She underwent vaginal wall repair and received analgetic, antibiotic, and blood transfusion. She was discharged in good condition on the second postoperative day.

Conclusion: Diagnosis of vaginal bleeding due to leech bite was made based on the history of swimming in a swamp, history of leech removal, and evidence of active vaginal bleeding with vaginal wall lacerations that could lead to anemia. Leech should not be forcibly removed as they may further contribute to abnormal bleeding. Leech bite Cases warrant monitoring to anticipate possible complications.

Keywords: leech bite, vaginal bleeding.

ITD 71

Rat Bite: A Rare Case in a Neonate

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Background: Rat bites are usually associated with poor living conditions but rarely happen in neonates. The main threat of rat bites is the rare risk of infection, including rat bite fever and tetanus. Herein, we report a Case of rat bite in a neonate and its management.

Case: A previously healthy 7-day-old female neonate was brought to the emergency room with a wound in the nose. The baby had been left unsupervised on a mattress lying on the floor when the mother found that a house rat was biting her. She was brought to the emergency room within 30 minutes. The mother received tetanus toxoid immunization during pregnancy. Physical examination revealed an active neonate with normal vital signs and a lacerated wound over the wing of the right nostril, 3 x 0.2 cm in size. Laboratory results showed hemoglobin 14 g/dL, white blood cell count 20,180/mm^3, platelets 359,000/µL, and CRP 0.2 mg/L. The patient underwent wound cleansing using normal saline, antibiotics administration, and laceration suturing. The patient was discharged in good condition with oral antibiotics after three days of hospitalization. One week after discharge, the wound had closed without any signs of infection or other abnormal systemic symptoms.

Conclusion: The management of a rat bite in a neonate, which consists of wound care, tetanus risk assessment and antibiotic administration, can prevent severe infection. Early and appropriate treatment is the key to minimizing further complications from rat bites.

Keywords: Bite, injury, neonate, rat.

ITD 77

Challenging Diagnose of Multisystem Inflammatory Syndrome in Children with Newly Diagnosed Lupus Nephritis

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Objective: Multisystem Inflammatory Syndrome in Children (MIS-C) is a hyperinflammatory condition that develops in children weeks after severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) infection. The diagnosis could be challenging due to overlapping with several diseases. The majority of patients with MIS-C presented with the involvement of more than two organ systems and having evidence of a marked inflammatory state
.
Case ILLUSTRATION: A 14-year-old boy was referred to the emergency department with acute renal failure and hypertensive emergency. On admission, the patient had shortness of breath, high blood pressure, and decreased urine output. Initial laboratory examination revealed decreased glomerular filtration rate, imbalance electrolyte, and metabolic acidosis. The patient underwent immediate haemodialysis afterwards. During hospitalization, the patient developed generalized rash, conjunctivitis, and swollen on both hands and feet. He was initially assessed as drug allergy and Kawasaki disease at the beginning. The patient also had fever that has been experienced since two weeks prior to admission. There was no history of SARS-CoV-2 infection or contact with suspected patient. Laboratory examination showed leukocytosis, thrombocytopenia, elevated inflammatory markers (c-reactive protein, procalcitonin, and d-dimer), and cardiac markers (troponin I). SARS-CoV-2 antibody level showed high titer. Bilateral pleural effusion was found on chest x-ray and pericardial effusion was showed from echocardiography study. Immunologic profile showed positive ANA with high anti ds-DNA level. He was then diagnosed as MIS-C in newly established nephritis lupus. High dose corticosteroid pulse therapy with methylprednisolone 10 mg per kilogram body weight for three consecutive days was given after renal biopsy was performed. His condition was markedly better, the laboratory parameters of inflammatory and cardiac markers was improved, and the therapy was continued in the outpatient clinic.

Conclusion: MISC-C should always be investigated in children with prolonged fever and rash after the SARS-CoV-2 pandemic.

Keywords: children, multisystem inflammatory syndrome

ITD 82

Atypical Manifestation of Dengue Hemorrhagic Fever in Glucose-6-Phosphate Dehydrogenase Deficiency, What Should We Know: A Case Series

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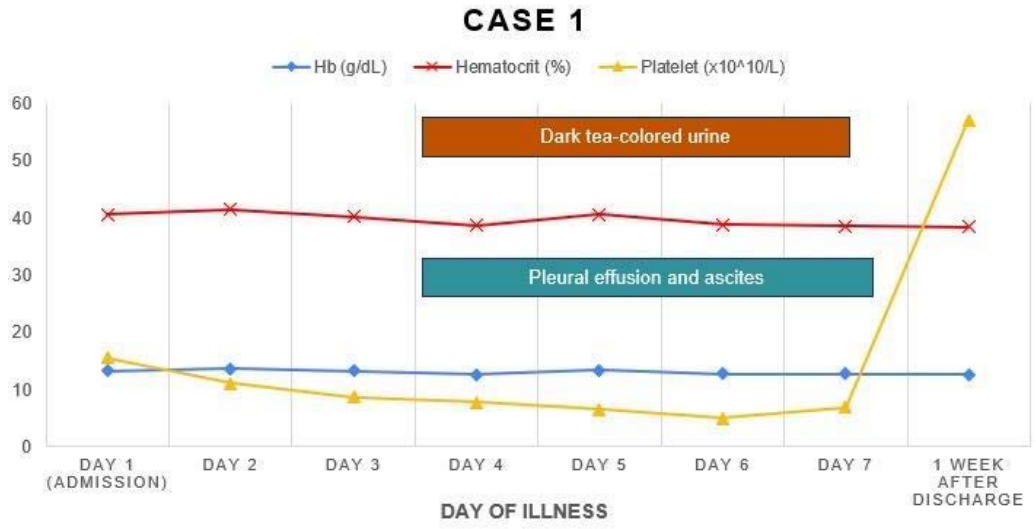
Background:
Dengue disease is endemic in Indonesia, exhibiting a wide spectrum of clinical manifestations. Glucose-6-phosphate dehydrogenase (G6PD) deficiency may lead to hemolytic anemia in the presence of certain triggers. We report two Cases of adolescent boys with dengue hemorrhagic fever accompanied by G6PD deficiency.

CaseS:
Case 1: An obese 13-years-old boy, previously diagnosed with G6PD deficiency, presented with high-grade fever for one day, abdominal pain, nausea, vomitus, myalgia, and retro orbital pain. The dengue NS1 test result was positive. On the fourth day of admission, he had dark tea-colored urine. Case 2: A 17-year-old boy was admitted with complaints of fever for 5 days, severe abdominal pain, vomitus, myalgia, and dark tea-colored urine on the fourth day of illness. He had no previous history of jaundice and G6PD deficiency. The dengue NS1, anti-dengue IgM and IgG tested positive on the sixth day of fever. Both patients had right lung pleural effusion and ascites upon physical examination. The patients remained hemodynamically stable with adequate urine output. Hemoconcentration was not observed in patients despite the plasma leakage conditions. The diagnosis of G6PD deficiency was confirmed with low G6PD levels 1.9 U/gr Hb for the first patient and 1.3 U/gr Hb for the second patient one month after discharge.

Conclusion:
Hemolysis in G6PD deficiency with dengue infection can mimic hematuria, manifested as dark-colored urine. In dengue hemorrhagic fever, the presence of plasma leakage without hemoconcentration should also prompt consideration of hemolysis, even in the absence of proven bleeding.

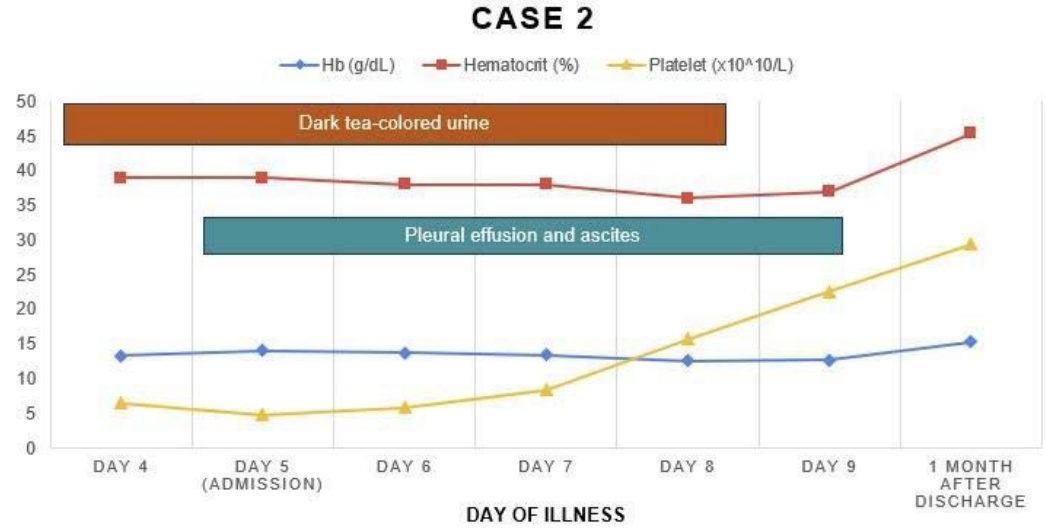
Keywords:
Dengue hemorrhagic fever, dark urine, hemolysis, G6PD deficiency.



Graph 1. Natural course of the disease in Case 1.

Parameters		Day of Illness						
	Day 1 (Admission)	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	1 week after discharge
Hb (g/dL)	13.3	13.6	13.2	12.6	13.4	12.8	12.7	12.6
Hematocrit (%)	40.6	41.4	40.2	38.7	40.6	38.8	38.5	38.4
WBC (x10^9/L)	4.86	2.98	2.54	1.85	1.81	2.05	3.08	10.71
Platelet (x10^9/L)	156	111	87	78	65	50	69	571

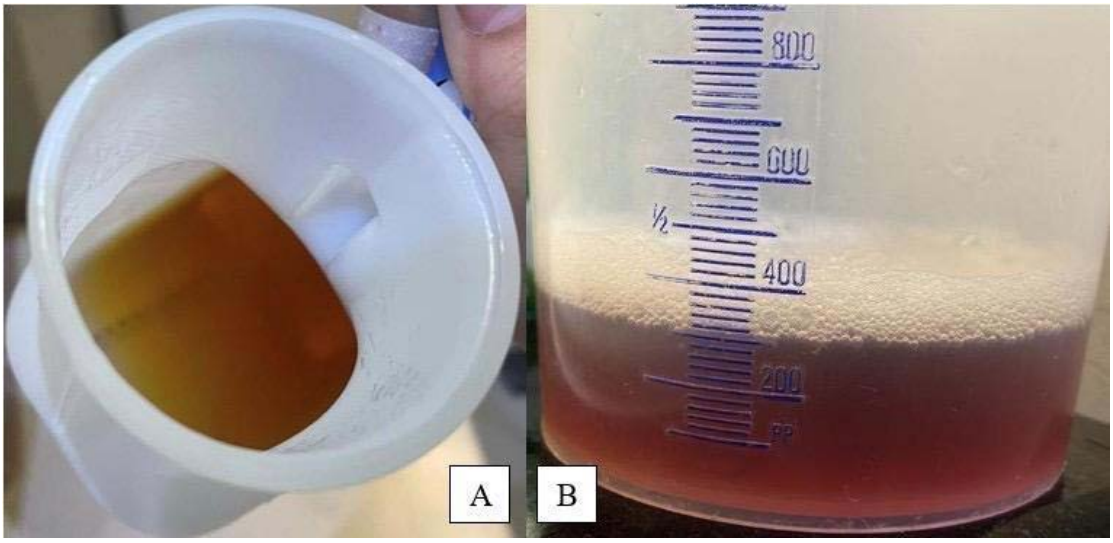
Table 1. Daily laboratory tests in Case 1.



Graph 2. Natural course of the disease in Case 2.

Parameters	Day of Illness						
	Day 4	Day 5 (Admission)	Day 6	Day 7	Day 8	Day 9	1 month after discharge
Hb (g/dL)	13.3	14.1	13.7	13.4	12.6	12.7	15.3
Hematocrit (%)	39	39	38	38	36	37	45.4
WBC (x10^9/L)	6.8	8.1	12.8	12.7	13.9	9.6	8.09
Platelet (x10^9/L)	65	48	58	84	157	226	294

Table 2. Daily laboratory tests in Case 2.



Picture 1. Dark urine in Case 1 (A) and Case 2 (B) patients.

ITD 85

Covid-19, Severe Bronchopneumonia, Acute Diarrhea, And Underimmunization Status In A Child

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Objective: The underlying cause of the lower incidence and pathogenicity of Coronavirus Disease-19 (COVID-19) in children remains unclear. Although the clinical presentation in pediatric populations is more complex, the severity of infection can be clinically classified as follows: asymptomatic, mild, moderate, severe, or critical. This classification makes the idea that even pediatric patients can experience severe manifestations of the pathology, which must be addressed as early as possible to limit disease progression.

Case: A 4-month-old female patient had chief complaints of fever, breathing difficulties, and diarrhea with watery stool since one day before admission. A cough accompanied the fever. Her temperature was 39,1^{0}C, the laboratory examinations showed leucocytosis, and the Chest x-ray revealed bronchopneumonia. She was diagnosed with COVID-19, severe bronchopneumonia, and acute diarrhea with underimmunization status according to her age. The treatment included oxygen supplementation, hydration, antibiotic, corticosteroid, and antipyretic. Her parents were educated to catch-up immunization.

Conclusion: The clinical spectrum of COVID-19 is wide, varying from completely asymptomatic forms to those characterized by severe respiratory distress requiring intensive care. Cough and fever appear to be some of the most common symptoms, followed by other symptoms such as gastrointestinal manifestations. There is little reliable evidence for the utility of drugs in treating COVID-19 pneumonia in pediatric populations. Defining the high-risk group for severe COVID-19 could help guide hospital admission and priority vaccination against SARS-CoV-2.

Keywords: SARS-CoV-2, catch-up immunization, disease progression.

ITD-2-11

Comparison of Diphtheria in Children Based On Severity Of Illness At Dr Soetomo Hospital

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Background: Diphtheria has been a major issue in Indonesia since 2005. The aim of this study is to analyze the comparison of children with diphtheria based on the severity of the illness.

METHODS: This study collected data from 2019 until 2023. The subjects were divided into non-severe and severe patients. The analysis used the Independent T-test, Mann Whitney U, Fisher Exact, and Kolmogorov Smirnov tests.

RESULT: There were 25 patients in this study. There was no significant difference in sex, primary complaint, outcome, and the number and type of complications between non-severe and severe diphtheria. The laboratory result shows no significant differences between the two groups' hemoglobin, hematocrits, and platelets. Only leukocyte has a significant difference (p=0.048).

Conclusion: The blood test results revealed significant differences only in leukocyte data.

KEYWORDS: diphtheria in children, comparison, leukocyte, severity of illness, Dr. Soetomo Hospital

ITD 51

Coverage of Measless Immunization in Children Diagnosed Measless in Pandemic Era. Lesson From Single Center in Banjarmasin, South Kalimantan

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Background: During pandemic covid 19 era that disrupt childhood vaccination coverage in Indonesia has been negatively impacted. The highly contagious nature of measles, coupled with the additive nature of each birth cohort's unimmunized children adding to the susceptible pool without intervention, means that larger clusters of measles-susceptible children could reignite endemic transmission in the Indonesia. To prevent this endemic emerging, we need to close attention relationships between immunization status and incident rate of measless.

Methodology: This analytic cross sectional study was held in Ulin General Hospital Banjarmasin from November – Desember 2022. All child suffer measless that hospitalized were include in this study. Data were gathered from medical record and analyzed using pearson correlation test to understand the connection between both of them.

Result: Total 43 children participated during this study, 26 boys and 17 girls, with mean age of 44 month old, whom the youngest was 2 month and the oldest was 180 month. All of them suffer pneumonia with one of them also suffer acute watery diarrhea. 3 children completed measless immunization and 4 children were only had 1 doses of measless vaccination with rest of them didn't get any measless vaccination before. In this study, we found relationship between vaccination status and incidens of measless with p-value 0,01, and correlation value - 0,89.

Conclusion: There were strong correlation between vaccination status and incidens of measles in our study. Measless catch up immunization were essential to be included in government program to achieve national measless elimination in 2026.

Keywords: Measless, Vaccination Status, Catch-Up Immunization

ITD 55

Neutrophil, Lymphocyte, Thrombocyte, Leucocyte, Procalcitonin and Neutrophil to Lymphocyte Ratio (NLR) as a Predictor for Bacteriemia

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Background : Biomarkers, such as thrombocyte, leucocyte, neutrophil to lymphocyte ratio (NLR), and procalcitonin (PCT), have been commonly used to predict the occurrence of life-threatening bacteremia and provide prognostic information, given the need for prompt intervention. The purpose of this study is to determine the accuracy of neutrophil, lymphocyte, thrombocyte, leucocyte count, and procalsitonin levels in predicting bacteriemia in pediatric patient

Methods : : A Case-control study was conducted by reviewing patients' medical records at Kariadi Hospital Semarang from January 2022 to February 2023. The variables analyzed include age, sex, total leucocyte, neutrophil, lymphocyte, thrombocyte, procalsitonin level and blood culture results. Association analysis was subsequently conducted for NLR and bacteriemia

Result : Total of 100 subjects aged 1-18 years old with fever, 67 of whom had positive blood culture (Case group) and 33 subjects with negative blood culture (control group) were enrolled. Most subjects were girls (52%). Subjects with leucocytosis (OR 17.85), thrombocytopenia (OR 3.89), neutrophilia (OR 5.39), or lymphocytopenia (OR 10.40) significantly had higher incidence of bacteremia. Procalsitonin at cuff off point of > 6.18 significantly associated with bacteriemia (OR 3.68, NLR at a cut of point of > 4.67 significantly associated with bacteriemia in pediatric (OR ; 11.83)

Conclusion : Leucocytosis is the most significant biomarker for bacteremia in pediatric patient. Subject with PCT > 6.18 (OR 3.68) or with NLR >4.67 (OR 11.83) had significantly higher incidence of bacteriemia.

Keywords : Leucocyte, Procalcitonin, Neutrophil to Lymphocyte Ratio, Bacteriemia.

ITD 68

Clinical Profiles and Laboratories of Children Age of 0-18 Years Old with Dengue Encephalopathy at Kandou General Hospital, Manado

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Introduction: Dengue encephalopathy is a common neurological complication of dengue fever. It is a secondary complication due to multisystem abnormalities like shock, hepatitis, coagulopathy, and concurrent bacterial infection. The aim of this study is to find out the clinical profiles and laboratories of children with dengue encephalopathy.

Methods: A retrospective descriptive study was done on children age of 0-18 years old, admitted to PICU Kandou General Hospital with a diagnosis of dengue encephalopathy, from January 2022 to July 2023.

Results: From 484 children with dengue infection, 18 children (3.71%) were diagnosed with dengue encephalopathy. The mean age was 72.11 ± 50.64 months old and mostly girls (11 girls; 61.1%). DHF grade III was found on 15 children (83.3%) versus DHF grade II on 3 children (16.7%). The profound clinical profile was gastrointestinal bleeding (11 children; 61.1%), seizure (9 children; 50%), apathy (GCS 12-14) (8 children; 44.4%), mild transaminitis (66.7%), and comorbid with bronchopneumonia (2 children; 11.1%). As many as 13 children (72.2%) survived compared to 5 children (27.8%) died. The mean platelet level was 48333.33 ± 33984.43 (range of 4000-141,000) /mm^3 and the coagulation time of PT was 33.59 ± 36.93 seconds and APTT was 43.40 ± 26.61 seconds.
Conclusion: Clinical profile and laboratory value of dengue encephalopathy children in PICU showed gastrointestinal bleeding, seizure, apathy, mild transaminitis, thrombocytopenia, prolonged PT and APTT time, with a comorbid of bronchopneumonia. The mortality rate is 27,8%.

Keywords: *children, pediatric, clinical profile, laboratory, dengue encephalopathy, dengue*

ITD 84

The Role of Platelets as Early Parameter to Predict Survival of Children with Dengue Shock Syndrome

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Background
Previous studies have shown that there is a relationship between platelet and dengue severity, but the reduction in how much and how much can be used as a predictor is still lacking in research. Aim of this study to determine the role of platelets as early predictor of outcomes among children diagnosed with DSS.

METHODS
This retrospective study was conducted within time from January 2022 to December 2022. All children under 18 years old with DSS, confirmed by clinical and serological test, were recruited. The demographic data including age, gender, nutritional status, clinical data, and results of hematological indices were analyzed. The overall survival (OS) rates in respect to the data were presented using Kaplan-Meier curve.

Results
Out of 190 patients diagnosed with DSS were 96 girls and mean age was 7.26 ± 3.69 years. The mean duration of fever and length of stay hospital were 4.66 ± 1.6 days and 5.28 ± 1.87 days, respectively. At diagnosis, 35 patients (18.4%) showed low platelet count (<20x10^3/uL), 72 patients (37.9%) had abdominal symptoms included nausea and vomiting, 95 patients (50.5%) had abdominal pain, 61 patients (32.1%) had bleeding manifestations, 144 patients (75.8%) had hepatomegaly and 18 patients (9,5%) were obesity. The 7-day survival rate was 92.1%. Overall survival rate for the DSS patients in low platelet (<20x10^3/uL) was 82,9 %, while in another group (>20x10^3/uL) was 94.2% (p=0.019).

Conclusion
Patients who had low platelet count at the initial laboratory test increase the occurrence of mortality in children with DSS.

Keywords: Dengue shock syndrome, platelet count, overall survival

ITD 86

The Clinical and Hematological Indices as a Predictor of Occurrence of Disseminated Intravascular Coagulation in Children with Dengue

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Background: Disseminated Intravascular Coagulation (DIC) has been known as a predictor of severity and mortality of dengue, but the marker of DIC is unavailable in any healthy facilities. That is why important to know the correlation of clinical and hematological indices as an early predictor of DIC among children with dengue shock syndrome (DSS).

METHODS: A retrospective cohort study was done for children admitted to Prof. Dr. R.D. Kandou General Hospital Manado with diagnosis of DSS. Between July 2021 to June 2023, baseline data of all eligible patients comprised of gender, age, nutritional status, clinical symptoms and laboratory examinations were noted. The independent variable was the incidence of DIC, using International Society of Thrombosis and Hemostasis (ISTH) score. The correlation between the variables were analyzed using IBM SPSS version 23 software.

RESULT: The result showed among clinical indices only fever correlated with DIC (DIC group vs no DIC group: 34.2% vs 65.8%, p: 0.017), but abdominal pain, vomiting, gum bleeding, and gastrointestinal bleeding, did not correlated with DIC (respectively p: 0.311, p: 0.395, p: 1.000, p: 0.654). Hematology routine only platelets correlate with DIC (p: 0.037), but leucocyte (p: 0.093), hemoglobin (p: 0,186), and hematocrit (p: 0,871) did not corelate with DIC.

Conclusion: There is correlation between fever and occurrence of DIC. In hematology routine, platelet association with occurrence of DIC in children with dengue.

Keywords: DIC score, dengue shock syndrome, early predictor, dengue hemorrhagic fever.

ITD-2-06

Generalized tetanus in a pediatric patient with Bronchopneumonia

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Objective :
Tetanus is a disease caused by Clostridium tetani with the main sign of muscle stiffness without disturbance of consciousness. From the data of the West Sumatra Provincial Health Office in 2016, there were 20 Cases of tetanus in West Sumatra and has decreased to 1 Case each in 2017 and 2018, and no Cases were recorded in 2019 and 2020. The main causes of mortality in tetanus are respiratory failure and cardiovascular dysfunction due to autonomic instability. Bronchopneumonia is the most common complication in pediatric patients with tetanus.

Case :
An unimmunized 9-years-old girl was admitted to ER with mouth and body stiffness since 5 days before admission. The patient's toe was pricked by a palm thorn 7 days before admission, followed by a high fever and breathlessness. The patient experienced tonic seizures, more than 10 times a day, especially when there was stimuli such as sound or light, there was no loss of consciousness during and after the seizure. On physical examination, the child was fully conscious, look severely ill, there was discharge from both ears, the liquid was yellowish in color and odor. The face look like risus sardonicus, stiffness of the neck, oral cavity trismus 1 cm (lockjaw), nasogastric tube (NGT) was draining reddish liquid, minimal retraction in epigastrium, breath sounds are bronchovesicular, with fine rales in both lung fields, no wheezing. Postural body Opisthotonus (+) with abdominal plank. Laboratory finding was leucocytosis (23.180 /mm3), impaired hepatic function (SGOT 452 U/l, SGPT 297 U/l), blood culture found Kocuria Kristinae. Chest X-Ray performed Infiltrates in the right and left perihilar and paracardials.

Conclusion :
Treatment for tetanus includes general measures for management of patients (quiet and dark room and wound dressing), muscle spasm control (Diazepam), airway/respiratory control, Human Tetanus immunoglobulin (HTIG) 3,000 IU IM, antibiotic therapy with Penicillin and Metronidazole, and provision of adequate fluids and nutrition. Patient discharge in good condition after 15 days treatment, and planned for catch-up immunization in the outpatient care.

Keyword : Generalized tetanus, seizure, bronchopneumonia, sepsis.

ITD 01

Tracheostomy in Upper Airway Obstruction on a 9-year-old Laryngeal Diphtheria Patient

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Background: One of complications from diphtheria is upper airway obstruction. While diphtheria was once a common and deadly disease among children, widespread vaccination efforts have significantly reduced its prevalence in the world. Poor immunization coverage and failure to take booster doses of Diphtheria, Pertussis, and Tetanus vaccine are some of the factors responsible for possible re-emergence of this infection.

Case: A 9-year-old child was brought to the emergency department of a tertiary care teaching hospital of Padang, in April 2023 with chief complaints of acute onset of shortness of breath, cough, elevated temperature, massive sore throat, and visibly swollen neck. The patient never got any immunization and there was a deceased family member that has similar symptoms. Based on physical examination the patient had an inspiratory stridor. Tonsils were meet in the midline and there were greyish-white membranous patches on both the tonsils which bleeds on removal. Routine blood test results were showing leukocytosis. Electrocardiogram shown a normal sinus rhythm. Two throat swabs were sent for microscopic examination and aerobic culture. The result confirmed as *C. diphtheriae.* We assessed the patient as laryngeal diphtheria with upper airway obstruction. We performed tracheostomy connected to ventilator. We gave diphtheria antitoxin 80.000 IU and Penicillin procaine 1,5 million IU. By the time the medication was given for 10 days, the patient's condition got better.

Conclusion: In order to completely eradicate diphtheria, adequate immunization with a focus on booster doses and the compilation of high-quality data on DPT vaccine coverage are essential.

Keyword: *Laryngeal diphtheria, Tracheostomy, Immunization*

ITD 04

Ascariasis and Nutritional Status of Preschool Aged Children in A Rural Area : A Case Report

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Objective: Ascariasis is one of the most important neglected tropical diseases (NTDs) worldwide and affects mainly tropical areas. It is caused by *Ascaris lumbricoides,* the intestinal nematode. The most affected groups are preschool and school-age living in low income areas. *A lumbricoides* infection rarely causes direct mortality, but contributes to chronic lifetime morbidity. The latter being associated with significant nutritional and growth deficits.

Case: A 2-year-old child from low educational and socio-economic levels was brought to emergency department with abdominal discomfort and several episodes of vomiting with the presence of worms in his mouth and anus during the past 24 hours. On examination, the child was irritable, and severely dehydrated. The pulse increased to 145 beats per minute with slow skin turgor and prolonged capillary refilling time (> 3 second). His laboratory, Hb 11.0 g%, leukocyte 14.460/mm^3. This patient classified as underweight and wasting. Stool examination found adult worms and no eggs. The patient was managed to rehydration and albendazole 400 mg for three days.

Conclusion: Diagnosis of Ascariasis made by finding *A. lumbricoides* eggs in direct stool or adult worms out through the mouth, nose or anus. Ascariasis cause damage the intestinal mucosa, resulting in malabsorption of nutrients, and competes for nutritional resources with its human host. Treatment with a single dosage of albendazole is usually successful. To avoid serious sequelae, improved sanitation, health education, and anthelmintic must be implemented.
Keyword : Ascariasis, children, nutritional status, wasting, underweight

ITD 14

Case Report: Severe Malaria in A Child

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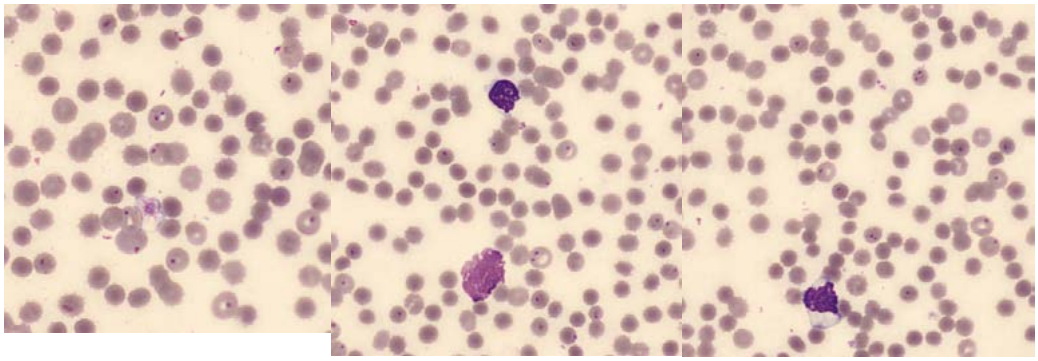
Background:
Malaria is a life-threatening disease caused by the Plasmodium parasite, transmitted through infected mosquitoes. It remains a major global health concern, especially in tropical regions. Severe malaria is a critical form of the disease that can lead to organ failure, coma, and death if not promptly treated.
Case:
A 3-year-old child from Nigeria, a foreign tourist, was admitted to the hospital with a chief complaint of high fever, vomiting, and abdominal pain for the past two days. No signs of bleeding were observed. The child's vital signs showed a blood pressure of 103/60 mmHg, heart rate of 178 bpm, respiratory rate of 24 bpm, body temperature of 39.8°C, and oxygen saturation of 100%. Physical examination revealed delirious consciousness, anemic conjunctiva, jaundiced sclera, abdominal distension, liver was palpable 4 cm below the right costal arch, and spleen was palpable at Schuffner II point. Blood tests showed low hemoglobin, hematocrit, platelet count and albumin. Blood tests also showed high CRP, retikulosit count and bilirubin, along with the presence of Plasmodium falciparum and Plasmodium vivax in the blood. The patient was diagnosed with severe malaria and received various treatments including intravenous fluids, antibiotics, antimalarial drugs, pain relievers, antipyretic medication and blood transfusion. The patient's condition improved and was discharged on the 5th day after treatment.
Conclusion:
Severe malaria is a life-threatening disease. Early diagnosis and treatment are crucial in reducing mortality and complications.

Keyword: malaria, *Plasmodium falciparum*, *Plasmodium vivax,* severe

Gambaran Apusan Darah Pasien.



ITD 16

Cerebral Ischaemia Following Tuberculous Meningoencephalitis Co-Infected with COVID-19 in a Child : a Case Report

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Background: Recent data suggest a significant increase in meningitis incidence after the Covid-19 pandemic. The pandemic fuels BCG vaccination rate to decline making way for susceptible host. SARS-CoV-2 had been described by multiple studies to have an impact on the neuron and glial cell. They had also been described to have immunosuppression nature possibly by impairing macrophage activity and therefore hindering the host to have proper immune response to other pathogen.

Case: A two-year old girl was referred to our hospital with altered mental status and fever for 10 days. She had a history of Intestinal Tuberculosis and positive PCR testing for Covid-19. She also showed nuchal rigidity and limbs rigidity. PCR testing using her CSF revealed positive M. tuberculosis. And her CT scan showed infarction in both lobes of her brain. She was then diagnosis with tuberculous meningitis.

Conclusion: Covid-19 co-infection should be a warning sign to treat patients more carefully as it gives rise to a more complicated disease course. Infections with both Tuberculosis and Covid-19 trigger the activation of proinflammatory cytokines. These cytokines play a role in creating conditions that encourage the formation of blood clots, ultimately leading to the development of ischemia, a condition that may be observed in this patient.

Keywords **:** Cerebral Ischaemia, Covid-19, co-infection, Meningitis, Tuberculous Meningitis.

ITD 18

Monitoring and Management of Dengue Infection with Hemorrhage in Hemophilia B

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Objective: Dengue infection has a wide clinical spectrum, including fever, myalgia, leukopenia, thrombocytopenia, and bleeding manifestation. Dengue patients with coexisting coagulopathy, including hemophilia, had a greater risk of bleeding, in earlier phase, and even in higher platelet count. The current *World Health Organization* (WHO) guideline on dengue still has not enlisted hemophilia as one of the special comorbidities in dengue infection, nor give specific note on evaluation, monitoring, or treatment for patients with such condition. This Case report aimed to explore the monitoring and management of dengue with hemorrhage in hemophilia B patients.

Case: An 8-year-old boy came with chief complaint of hematemesis in the last 24 hour. He had fever two days before, accompanied with significant petechiae in his hands. He was diagnosed with hemophilia B since the age of 15 months, given prophylaxis of factor IX concentrate every other week. The last factor IX concentrate was given the previous week. He was confirmed dengue infection based on positive for antigen NS-1 dengue, with marked right pleural effusion. Dengue with warning sign of hematemesis and digestive mucosal bleeding was diagnosed. He was given maintenance crystalloid fluid and factor IX concentrate with significant replacement therapy dose, starting with 40 IU/kgW/day. No spontaneous bleeding was seen after two days of therapy. He was then started enteral diet and the factor IX concentrate was tapered down.

Conclusion: Prompt recognition, adequate fluid and factor IX concentrate therapy, along with close monitoring in children with dengue infection and existing hemophilia B are necessary.
Keywords: Dengue infection, hemophilia.

ITD 22

Tuberculous Spondylitis in Malnutrition Children: A Case Report

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Objective: Tuberculous spondylitis, also known as Pott's disease, is a spine infection caused by hematogenous spread of *Mycobacterium tuberculosis*. The spine is one of the sites for extrapulmonary tuberculosis. This condition can result in severe deformities and lead to early or late neurological complications.

Case: An 8-year-old female patient has been experiencing back pain, prolonged fever, constipation, and difficulties with walking for the past month. The patient has history of contact with a tuberculosis patient, specifically her grandmother. During the physical examination, a bump was noticed on the lumbar region, and the patient was found to be short stature and moderate malnutrition. There was no BCG scar observed. The Mantoux test result indicated an induration size of 14 mm. The X-ray imaging revealed a compressive fracture in the lumbar vertebrae L4-L5, as well as narrowing of the disc space and intervertebral foramen from lumbar vertebrae L3 to sacrum S1 levels. The patient received treatment with anti-tuberculosis medication and collaborated with orthopedics during her treatment period, resulting in some improvement, although she still requires referral to a national referral hospital for further care.

Conclusion: The primary diagnosis in this patient was based on a combination of clinical findings (back pain, fever, and neurological problems), radiological evidence from x-ray imaging, and the result from the Mantoux test. This Case report highlights the importance of conducting a comprehensive history and physical assessment, along with considering non- specific findings. These measures played an important role in diagnosing tuberculous spondylitis, even in an unusual location.

Keywords: Tuberculosis, infection, spine.

ITD 42

Congenital Cytomegalovirus Infection and Persistent Hypoglycemia; A Part of Manifestation or Coincidence?

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Objective: Cytomegalovirus (CMV) is a leading cause of congenital infections worldwide, occurring in 0.2%–6.1% of live births. It has varied presentations ranging from asymptomatic to involvement of multiple organ systems like the central nervous system, gastrointestinal, hepatic, and hematopoietic. Despite its variety, hypoglycemia has barely been reported as one of the effects.

Case: A 2-month-old boy was admitted to the hospital, complaining of recurrent tonic-clonic seizures and a yellow appearance for the past 2 weeks. Defecation was colored putty. The baby also presented with microcephaly, umbilical hernia, and micropenis. Laboratory findings showed elevated bilirubin and liver function test with low random blood glucose (19 mg/dl). The TORCH serology resulted in reactive anti-CMV IgM and IgG. The patient was treated for his hypoglycemia by intravenous 2cc/kg bolus of dextrose and fluid maintenance with a glucose infusion rate (GIR) of 5 mg/kg/min. The patient was also given breast milk every 3 hours. Blood glucose only temporarily stabilized; thereafter, blood glucose levels continued to fall. Most of the time, blood glucose didn't stabilize until a dextrose IV bolus was administered. After several days of hospitalization, the patient was transferred to another hospital to require further examination and Ganciclovir therapy.

Conclusion: Cytomegalovirus infection can lead to various complications. Hypoglycemia might not be caused by the infection itself but rather by variety of CMV-related issues, such as hepatitis or congenital hypothyroidism. Therefore, evaluation of thyroid hormones or any potential abnormalities should be considered in order to give appropriate treatment and prevent any complications that might occur.

Keywords: Congenital CMV infection, cytomegalovirus, hypoglycemia

ITD 49

Herpes Zoster on a Child with Systemic Lupus Erythematosus

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Objective: Herpes zoster (HZ), defined as the reactivation of a latent varicella-zoster virus (VZV) infection, used to be a serious disease in immunocompromised children. Immunocompromised conditions like systemic lupus erythematosus (SLE) increase the incidence of HZ.

Case: A 16 years-old female patient came with complaints of painfull reddish blisters for previous 5 days accompanied by fever. At first, blisters only appeared on pelvic then multiplied and spread throughout the body. The patient had been diagnosed with SLE since 2 years later and was regularly taking steroids, hydroxychloroquine, methotrexate, and supplements. Dermatological examination of the the right hemithorax in dermatome T11-12 and the back presented vesicles with an erythematous base, and some other confluent vesicles became bullae, well defined, with an irregular border, varied in size and shape. The patient was diagnosed as HZ. The patient received intravena acyclovir with dose 10mg/kg for 5 days continue with oral acyclovir 5×800 mg for next 5 days, and obtained clinical improvement.

Conclusion: Although the onset of HZ in children is less common, it may occur in children with SLE comorbidity. Herpes Zoster in SLE patients may be due to immunological abnormalities, and immunosuppression therapy with high-dose glucocorticoids (GC). In addition, the incidence of HZ increases in SLE patients.

Keywords
Infection, herpes zoster, systemic lupus erythematosus, Immunocompromised, acyclovir.

ITD 52

Unusual manifestation of *Staphylococcus hominis* Blood Stream Infection

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Background: Staphylococcal infections most often affect the skin. Classification into two groups is based on the presence of the coagulase reaction. Formerly acknowledged as non-pathogenic commensal organisms, coagulase-negative staphylococci (CoNS) are being recognized as potential true pathogens. Multiple surveys have shown that CoNS are the most frequent cause of nosocomial bloodstream infections around the globe. Identification requires biotype analysis for antibiotic choice.

Case: A 2 years-8 months-old boy was admitted with a history of fever and distended abdomen that lasted for 1 month. There were no skin manifestations. He had already been hospitalized twice in another hospital prior to this admission. He had already been given antibiotics intravenously and orally without taking sample for blood culture. On this admission, an abdominal X-ray showed significant dilatation of small bowel. Adhesion was suspected as he had history of complete colectomy at birth due to Hirschprung disease. A rectal tube was placed for 2 days to decompress the abdominal distention. Sepsis workup was done prior to antibiotics. Within 16 hours, there was a growth in blood culture, hence sepsis panel was performed and showed coagulase-negative *Staphylococcus sp*. Antibiotic was adjusted. Final blood culture showed *Staphylococcus hominis* and sensitive with the current antibiotic. On the fourth day of hospitalization, fever and abdominal distention had already resolved. Patient was discharged after 14 days antibiotic completion

Conclusion: *Staphylococcus hominis* infection could show no local manifestation. Therefore, cultures of samples must be taken prior to antibiotic. A sepsis panel could help to guide the choice of antibiotic

Keywords: abdominal distention, fever, sepsis workup, sepsis panel, Staphylococcus hominis.

ITD 62

Diversity of Clinical Signs of Rheumatic Fever: When to Look Out and Test for Anti-Streptolysin Titer

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Background: Acute rheumatic fever is an autoimmune disease that follows a prior group A β-hemolytic streptococcal infection. Though prevalence has decreased over the years, the disease is still highly prevalent in developing countries and may result in debilitating life-long sequalae.

Case: We report three Cases with various major manifestations of the Jones criteria. The first patient is an 8-year-old boy who presented with arthritis and proof of a previous streptococcal infection. The patient was started on glucocorticoids and antibiotics. The second is a 17-year-old boy with prolonged fever and palpitations. Carditis was found on echocardiography and the patient was started on aspirin and antibiotics. The third patient is a 17-year-old who presented with signs of heart failure and coexisting rheumatic heart disease and congenital heart defect. The patient had severe carditis as well as arthritis and was started on diuretics, antibiotics, steroids, antiarrhythmics and beta-blocker. Management differed in each Case, but all had favorable outcome.

Conclusion: Clinicians should be aware of the various manifestations of rheumatic fever and should be able to come to a swift diagnosis in order to address timely initiation of treatment and decrease disease burden and morbidity.

Keywords: Acute rheumatic fever, rheumatic heart disease, congenital heart disease, infectious diseases and tropical medicine, paediatric rheumatology

ITD 72

Liver Involvement in Severe Dengue: A Case Series

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Background: Severe dengue is a severe degree of dengue infection characterized by hemodynamic instability. Liver involvement is frequently found organs in severe dengue and can increase the risk of acute liver failure. This condition may raise the risk of mortality and morbidity in children, with CFR in Southeast Asian are 3%-5%. This Case series described the characteristics of 10 patients with severe dengue presenting liver involvement admitted to Dr. Kariadi Hospital in December 2022 – May 2023.

Case: Ten patients were diagnosed with dengue hepatitis based on aminotransferase elevations, consisting of 4 males and 6 females, aged 1-14 years old. Clinical, laboratory, and serology were performed. Nausea (80%), Vomiting (80%), abdominal pain (80%), hematemesis (80%), and shock (70%) were the most clinical manifestation. Encephalopathy occurred in 9 patients (90%). Four patients (44.4%) had hyponatremia and one patient (11,1%) had uremic level greater than 200 mg/dl. AST levels were higher than ALT. AST reached 4711 U/L (138 times) and ALT 1556 U/L (45.76 times). The lowest AST was 107 U/L (3 times), while ALT was 43 U/L (1.2 times). All patients receive supportive treatment according to clinical and laboratory results. Transaminase enzyme levels usually return to normal after fourteen days. Three patients (30%) died with the highest aminotransferase enzyme that could cause their death. Additionally, eight patients had renal dysfunction with a significant rise in creatinine.

Conclusion: Hepatic involvement is common in children with dengue. Early recognition of severe liver involvement is important for reducing mortality and morbidity children with severe dengue.

Keywords: Severe Dengue**,** Dengue Hepatitis, Aminotransferase, Gastrointestinal bleeding

ITD 80

Diagnosis and Management Coinfection of Dengue and Coronavirus Disease (COVID-19)

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Background: During the pandemic of coronavirus diseases (COVID-19), coinfection of dengue and COVID-19 often led to misdiagnosis and mismanagement. Similarity between the clinical presentations and laboratory results made the diagnosis become harder. In tropical countries as Indonesia, the Cases of coinfection seemed to be high up to 30% of all Cases of COVID-19. If these conditions left untreated, the morbidity and mortality rate would be elevated.
Case: An 11-year-old boy came to hospital with chief complaint of fever for 6 days prior to admission. He also had cough, rhinorrhea, poor feeding, asthenia, petechiae and history of diarrhea. He had no respiratory distress. He had also no abdominal pain, persistent vomiting, signs of plasma leakage, or mucosal bleeding. Then he was tested for NS1 dengue antigen, IgM/IgG anti dengue, and RT-PCR SARS COV-2 nasopharyngeal and oropharyngeal swab and got the positive result for all tests. He was diagnosed with confirmed dengue without warning signs and coinfection with mild degree of confirmed COVID-19. He was treated according to national protocol of dengue and COVID-19 management. After 4 days of hospitalization, patient recovered and discharged.
Conclusion: Dengue and COVID-19 coinfection is frequently occurred in tropical countries and lead to misdiagnosis and mismanagement. Early recognition of coinfection can improve the prognosis of the patients.

Keywords: fever, dengue, covid 19, coinfection

ITD 02

Clinical Features of Children with Diphtheria at Dr. M. Djamil Hospital

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Introduction: Diphtheria is an acute infection caused by a facultative anaerobic Gram-positive bacterium, i.e. *Corynebacterium diphtheria*. Diphtheria morbidity and mortality rates in Indonesia are still quite high. West Sumatra is the sixth province with the highest incidence of diphtheria in Indonesia in 2017. This paper aims to describe the profile of diphtheria at Dr. M.Djamil Hospital Padang in 2017-2023.

Methods: This descriptive study reviewed all medical records of diphtheria pediatric patients admitted to Dr. M.Djamil Hospital from January 2017 to December 2023, focusing on clinical presentations, age, sex, immunization status, complications, and outcomes.

Results: From the 44 Cases of pediatric diphtheria, 70.5% were boys, with a sex ratio of 2.38:1. The age proportions of ≤ 5 years, 5- ≤ 10 years, and > 10 years old were 40.9%, 38.6%, and 20.4%, respectively. Fever occurred in 100% of Cases, meanwhile, sore throat, stridor, and bull neck occurred in 97.7%, 20.5%, and 18.2% of Cases, respectively. Subjects were fully immunized at 75%, and partial or non-immunized at 25%. Myocarditis was the most common complication (9.1% of Cases), airway obstruction and sepsis were the second (4.5%). Myocarditis had a significant relationship with incomplete immunization history ($p=0.043$) while other complications did not have a significant relationship ($p>0.05$).

Discussion: The incidence of pediatric diphtheria from 2017 to 2023 has decreased. The most prevalent clinical features in children with diphtheria are fever followed by sore throat. Myocarditis is the most common complication of diphtheria, and it is associated with incomplete immunization history. Meanwhile, mortality mostly occurred in partial or non-immunized patients and patients with severe forms of diphtheria.

Keywords: *diphtheria, clinical features, children, mortality*

ITD 11

Pooled RT-PCR Testing: A More Efficient Covid-19 Screening Strategy

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Background: Reverse transcription polymerase chain reaction (RT-PCR) testing is indispensable in diagnosing coronavirus disease 2019 (Covid-19). However, the screening capacity of RT-PCR testing is overburdened and inefficient, particularly in areas with low prevalence of disease. The establishment of novel strategies and capabilities is required. One option is the pooled RT-PCR testing

Methods: This study investigated the effect of pool size and mixture level on end-of-cycle (Ct) thresholds using different mixtures of known negative and positive Covid-19 samples. Specifically, several low, medium, and high Ct positive samples were combined with 5, 8, 10, 15, 20, and 25 pool size samples. Subsequently, we not only analyzed the shift in delta Ct values between pooled samples and individual samples on each low, medium, and high Ct positive sample pool, but we also evaluated the comparison between Ct values of pooled samples and those of individual samples on each low, medium, and high Ct positive sample pool.

Results: This study showed that the shift between the Ct values of the individual samples and the Ct values of the pooled samples decreased as the Ct values of the individually examined samples increased. Furthermore, there is no statistically significant difference between the Ct values of the individual samples and the Ct values of the pooled samples using the Wilcoxon test.

Conclusion: A pooled RT-PCR testing strategy does not reduce the quality of individually measured RT-PCR Ct values and thus a pool size of 25 provides a practical way to expand RT-PCR screening capacity.

Keyword: Pooled test, Covid-19, Ct values, Screening, RT-PCR.

ITD 26

The Association Between Multiple Antibiotic Use in Critically Ill Children with The Incidence of Multiple Drug Resistance Organism

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Background: It has been reported that the use of antibacterial drugs is a key factor related to bacterial resistance. The amount of antibiotics used correlated with bacterial resistance. This study determined the relationship between the use of multiple antibiotics and the incidence of multiple drug resistance organism (MDRO).

Methodology: A cross-sectional study was conducted in critically ill children having blood, sputum and urine cultures treated in PICU of Dr. Moewardi Hospital, Surakarta from January to December 2021. The dependent variable was the incidence of MDRO, the independent variable was the use of multiple antibiotic. The relation between the variables was analyzed with chi square test and bivariat analysis, and $p<0.05$ with 95% CI was set as significane level.

Results: Eighty one patients were included in the study, comprising 51 MDRO subjects (63 %). Among these subjects, 30 of them received multiple antibiotic (58.8%) and 21 were used single antibiotic (41.2%). Bivariat analysis obtained significant relation between the use of multiple antibiotics and MDRO incidence (OR=3.93, 95% CI = 1.47-10.50, p=0.005).

Conclusion: The use of multiple antibiotics associates significantly with MDRO incidence in children with critically illness.

Keywords: Multiple, antibiotic, MDRO, PICU

ITD 41

Ventilator Use in Relation to Multidrugs Resistant Organism Events in Pediatric Intensive Care Unit of Dr. Moewardi Hospital Surakarta

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Background: Multidrug Resistance Organism (MDRO) is commonly among patients on prolonged mechanical ventilation. Unstandardized ventilator tubal care or non-disinfected equipment is often a route for MDRO invasion. This study aims to determine the relationship between the use of ventilator and the incidence of MDRO.

Methodology: A cross-sectional study was conducted patients treated in PICU of Dr. Moewardi Hospital, Surakarta, who had blood, sputum and urine cultures from January to December 2021. The dependent variable was the incidence of MDRO, the independent variable was the use of ventilator. All data were processed with SPSS 29.0.1.0 (171). The relation between the variables was analyzed with bivariate analysis by chi square test, and $p<0.05$, 95% CI was set as significant.

Results: There were 81 patients included in the study comprising 51 subjects with MDRO (63.0%), and 36 subjects with ventilator (44.4%). Among subjects with MDRO, 28 were on ventilator (34.6%) and 23 without ventilator (28.4%). Bivariate analysis by chi square test obtained significant relation between the use of ventilator and MDRO (OR=3.35, 95% CI = 1.26-8.91, p=0.014).

Conclusion: Ventilator use significantly relates to MDRO, in which 3.35 times greater risk to develop MDRO than those patients without ventilator.
Keywords**:** Ventilator, MDRO, PICU

ITD 58

Characteristics of Acute Post-Streptococcal Glomerulonephritis Associated with Scabies Infection in Children from Remote Areas in Cianjur.

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Background: Scabies is referred to as the infestation of the skin by *Sarcoptes scabiei*. Scabies could be associated with group A streptococcus (GAS) and turn out to be pyoderma, which has been suggested to contribute to the development of glomerulonephritis.

Methodology: To have a better insight into the characteristic of this disease, medical record searches were performed on the data on scabies and or acute post-streptococcal glomerulonephritis (APSGN) symptoms and risk factors. Our research subjects were all pediatric patients who were treated in Pagelaran Regional Public Hospital with an age range of 1-18 years. Data were analyzed through SPSS by using descriptive statistics.

Result: Throughout the year 2022, there were 1148 children treated in Pagelaran Regional Public Hospital. there were 14 children aged 1-18 years with Scabies and/or APSGN. There were 4 Cases experience both conditions and 2 Cases with history of faringitis. In the APSGN group, all of Cases had hematuria, 2 Cases (14,2%) had increased ureum level, had history of faringitis 2 Cases (14,2%), had scabies 4 Cases (28,6%) and 12 Cases (85,7%) experienced swelling. The result of our research indicate that there are 4 Cases of scabies patients accompanied by APSGN and 3 of this Cases associated by pyoderma.

Conclusion: Based on our result scabies associated with pyoderma will have a chance to develop to be APSGN.

ITD 69

Clinical Characteristics and Outcomes of Severe Confirmed Pertussis in Young Children

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Introduction: Pertussis continues to be an important health problem in Indonesia. In the beginning of the 2023, the reported Case of Indonesia was nine time higher compared to the previous year. Infants are most vulnerable to developed severe disease, with higher rate of hospitalization, malignant pertussis, and death.

Objective: The aim of this study was to describe the clinical characteristics and outcome of young children with pertussis presenting to a tertiary care hospital.

Method: A retrospective study was conducted at Mohammad Hoesin Hospital, Indonesia. The diagnosis of Pertussis was based on CDC's Case definition. Data of hospitalized pertussis patients at the Pediatric Department from June 2022 to June 2023 was extracted from hospital medical record.

Results: There were 36 Cases of suspected pertussis, 14 were confirmed by PCR testing. The age range of confirmed Cases was 1 to 17 month (mean 4.7 months), predominantly <3 month-old (9/14), and 8/14 were female. All Cases were complicated with pneumonia. Malignant pertussis occurred in nine patients, four died to respiratory failure, three were under 3 months-old. Initial white blood cell (WBC) count >50,000/uL were reported in nine patients. In total the average of WBC count was 74,967/uL with absolute lymphocyte count (ALC) 19,445/µL. The mean of WBC count and ALC were higher among patient who died compared to those who survived [82,783/µL vs 43,575/µL (p-value=0.03) and 82,783/µL vs 43,575/µL, (p-value=0.02), respectively].

Conclusion: Pertussis that occurred in infants under 3 months-old with high ALC and WBC count were more likely to have poor outcome.
Keywords**:** Pertussis, malignant, severe, children.

ITD 73

Dengue Infection in Pediatric Hematology-Oncology Patients – 5 Years' Experience

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Hematology-Oncology Division, Department of Child Health, Universitas Padjadjaran, Bandung

Background: Dengue infection is endemic in tropical countries like Indonesia, but there is limited data in literature to date on dengue infection and its complications in children with hematology-oncology conditions.

Methodology: A retrospective observational study on pediatric hematology-oncology patients with dengue infection was conducted in a tertiary care center in Indonesia between January 2018 – December 2023. Clinical profile and outcome of patients were analyzed.

Results: Of 14 Cases of dengue in pediatric hematology-oncology patients, 5 (35.7%) patients had dengue without warning signs, 5 (35.7%) patients had dengue with warning signs, and 4 (28.5%) presented with severe dengue. The type of comorbidity included thalassemia (n=9), leukemia (n=3), and aplastic anemia (n=2). Dengue was diagnosed primarily by serology test (IgM/IgG anti-dengue) in 10 (71.4%) patients and NS-1 antigen test in 4 (28.5%) patients. Delay in diagnosis occurred in 8 (57.1%) patients by a mean of 2.1 days (range 1–4 days). The Cases are complicated with abnormal liver function, mucosal/gastrointestinal bleeding, bronchopneumonia, sepsis, intracranial hemorrhage, encephalopathy, and DIC. The majority of patients recovered and two patients with DSS died. The average duration of hospital stay was 7.14 days, 3 days more as compared to other dengue infection. The average hospital cost was Rp.10,571,191,- compared with Rp.6,367,682,- to other dengue infection.

Conclusion: Higher clinical suspicion of dengue is required for hematology-oncology patients presenting with fever. In most patients, dengue infection follows a benign course. Still, early diagnosis may help clinicians in modifying treatment decisions about rational use of antibiotics, fluid resuscitation, and monitoring.

Keywords: dengue, children, thalassemia, leukemia, hematologic-oncologic patient.

ITD 75

Clinical Profile of Children With Measles: A Descriptive Study from a Tertiary Care Hospital, Jakarta, Indonesia

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Background
In comparison to the preceding years, there was an increase in suspected and confirmed measles Cases in Indonesia between 2022 and 2023. A total of 2161 probable measles Cases (848 laboratory-confirmed and 1313 clinically compatible) have been reported between 1 January and 3 April 2023 in 18 of Indonesia's 38 provinces.

Methods
This was a descriptive study of measles Cases from pediatric unit of Cipto Mangunkusumo National General Hospital, Jakarta, admitted during November 2022-May 2023.

Results
Seventeen children were diagnosed with measles throughout the period. There were 13 male patients. 14 patients did not receive the measles vaccine. Ten of the patients had malnutrition, with four having severe malnutrition and six having mild-moderate malnutrition. Every patient had an underlying medical condition, with congenital disease being the most prevalent (10 patients), followed by cancer (three patients), and immunological deficiency (two patients). Classic clinical features of cough, coryza, and conjunctivitis were found in 13, 12, and seven patients respectively. Six of the patients had diarrhea, and ten of the patients had pneumonia complications. One Case was identified as a confirmed Case by measles serology. Due to the comorbidities, antibiotics were given to ten patients. The median for length of stay was 7 days (1-25 days). There were six patients from Jakarta, four from Banten, and three from West Java.

Conclusion
Increasing the coverage measles rubella immunization is necessary to reach elimination and eradication measles and rubella in several years later.

Keyword: Measles, Children, Immunisation

ITD 78

Ten Years Trend of Dengue Vaccine Research in Global Publication: A Bibliometric Analysis

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Faculty of Medicine, Andalas University, Padang, Indonesia
Faculty of Medicine, Pembangunan Nasional Veteran University, Jakarta, Indonesia
Faculty of Medicine, Sriwijaya University, Palembang, Indonesia

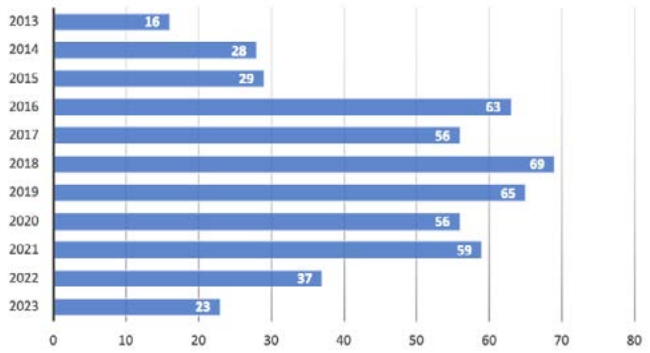
Objective: A vector-borne viral disease caused by the flavivirus dengue virus (DENV) causing 22000 deaths worldwide each year. The complexity of DENV pathogenesis and its relationship to immune system are barriers to developing an efficient and an inexpensive dengue vaccine. This is due to the majority of countries experiencing dengue outbreaks are economically challenged. This study aimed to analyze the global trends and publication activity related to dengue vaccine research over the last ten years through bibliometric analysis.

METHODS: We identified top number of publications by year, journals publishing, and type of document with the keyword "Dengue Vaccine in Children" limited to the last 10 years (2013-2023) from PubMed. The collected data managed by Ms. Excel and VOS Viewer. After that, the results of bibliometric mapping were analysed further.

Results: About 501 publications obtained in the PubMed database accessed on July 25th, 2023. We found that the most publications were in 2018 with 69 publications. The most journal that publish dengue vaccine research is PLOS Neglected Tropical Diseases (40%), while the most publications based on document type are review articles with 98 documents.

Conclusion: Our bibliometric analysis suggests that there was a significant research activity in the field of dengue vaccine in children research over the last 10 years. By understanding the current state of dengue vaccine in children research and identifying emerging trends, policy makers and public health practitioners can make informed decisions about where to focus their efforts to reduce the burden of DENV infection on global health.

Keyword: Dengue, Vaccine, Children, VOS Viewer, Bibliometric.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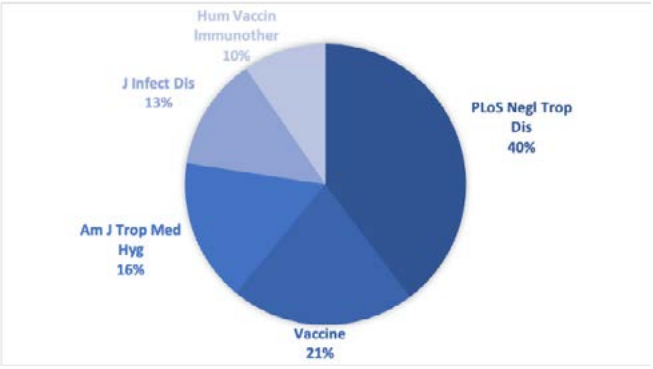
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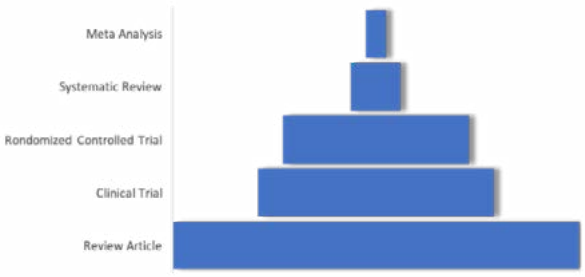
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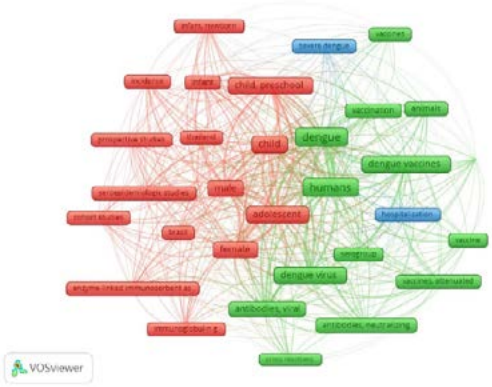
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ITD 79

Efficacy of Zinc Supplementation in Neonatal Sepsis: A Systematic-Review and Meta-Analysis

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Introduction
The mortality and morbidity from neonatal sepsis still remains high. Zinc, an essential micronutrient, plays a crucial role in immune function and inflammation regulation, making it a potential candidate for addressing neonatal sepsis. This systematic review and meta-analysis aims to find out the efficacy of zinc supplementation for neonatal sepsis.

Methods
A systematic literature search was performed from several databases, including Pubmed, ScienceDirect and Cochrane, that were published until 2023, using following keywords ("neonatal sepsis" OR "neonatal infection" OR "newborn septicemia" OR "infant sepsis") AND ("zinc supplementation" OR "zinc therapy" OR "zinc intervention" OR "zinc treatment"). The outcome includes mortality rate and hospital stay. Two independent reviewers performed article screening. Risk of bias was assessed using NOS. We performed a meta-analysis using a random-effect model in RevMan 5.4.

Results
This systematic review identified 145 articles, and six studies were included. Most studies were concluded to have a low risk of bias based on NOS assessment. A total number of 1,210 neonates were screened for sepsis. Five studies showed that zinc supplementation reduced mortality rate [0.58(-0.30 to 1.12); 95% CI, p-value 0.10; I^2= 51%] but not significantly. Zinc supplementation improves zinc serum significantly [81.97(34.57 to 129.37); 95% CI, p-value 0.0007; I^2= 0%]. There were no significant fold differences in TNF- and IL-6 levels between the two groups.

Conclusion
Zinc supplementation may have reduced mortality rate but not statistically significant and improve serum zinc in neonatal sepsis. TNF- and IL-6 levels also changed but were not statistically significant.

Keyword: Meta-Analysis, Neonatal, Sepsis, Systematic-Review, Zinc Supplementation

ITD 83

The Correlation Between Aminotransferases and Outcome of Dengue Hemorrhagic Fever in Children

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Background: Aminotransferases are enzymes that are often elevated in dengue due to the liver's physiological and immunological response to the infection. The aminotransferases value in severe dengue is thought to be higher than in dengue fever. Aim of this study to analysis correlation between aminotransferases and outcome of dengue in children.

Method: It is a retrospective study by reviewing the medical records of children <18 years old hospitalized with dengue hemorrhagic fever (DHF) from July 2021 to June 2023 at pediatric ward RSUP. Kandou General Hospital Manado. The diagnosis was based on WHO criteria and serologically positive anti dengue IgM or IgG. The independent variable was DHF grade 1, 2, 3 and DSS and variable dependent were AST and ALT. Statistical analysis using Pearson correlation with significant statistic $p<0.05$.

Results: Data were collected from 499 patients (54.6% males and 45.3% females). The DHF severity consisted of grade 1-2 102 Cases (20.4%), grade 3 377 Cases (75.5%) and DSS 20 Cases (4.1%). The mean values of AST were 188.86±139, ALT 75.7±96.6, and AST/ALT ratio 3.9±1.3. The test results showed there was relationship between increases AST levels and AST/ALT ratio >1 with the severity of dengue infection ($p= <0.05$), but ALT levels not associated with severity of dengue infection ($p= >0.05$). Death was observed in 25 patients (5%) with increasing AST > 5 times.

Conclusion: The study showed that increasing AST>3 times and AST/ALT ratio >1 associated with dengue severity and increasing AST>5 times associated with death in children with DHF.

Keywords: dengue hemorrhagic fever, AST, ALT

ITD-2-07

An Overweight Girl with Expanded Dengue Syndrome

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Background: Dengue fever, an Aedes mosquito-borne viral infection, is a self-limiting or asymptomatic viral infection. In its severe form, severe dengue, the symptoms include organ failure, life-threatening bleeding, and shock. The aim of this Case presentation is to report a Case of expanded dengue syndrome in an overweight patient on pediatric department in DR. M. Djamil Hospital

Case: A 7 years old girl referred to our hospital with cold hand and foot, there were history fever, nausea, and abdominal pain, parents also complained that their child tend to be restless and talk incoherently, gastrointestinal bleeding was present at the first day of hospitalization. Initial laboratory findings showed thrombocytopenia, haemoconcentration, hyponatremia, hypocalcaemia, acidosis, hypoalbumin, increased liver function as well as positive IgG and IgM anti dengue. Fluid rescucitation was given to the patient to manage the shock condition. Steroid was given to prevent elevating intracranial pressure. Chest x- ray shows no pleural effusion. Hypoalbumin was present as sign of plasma leakage. The shock condition resolve at the first day of hospitalization, at the third day the girl start to gain consciousness, Close monitoring of laboratorium value is maintained until the patient discharged.

Conclusion: Many literature reviews found that obesity or overweight is a risk factor for dengue severity among children, when increasing number of white adipose tissue lead to increasing production of inflammatory mediators that increase the capillary permeability and leads to plasma leakage.

Keywords: dengue, encephalopathy, overweight, plasma leakage, viral infection

ITD 03

Challenges of Diagnosis and Management in Severe Dengue Overlapping with Septic Shock in Children

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Background : Severe dengue is a lethal condition that can be characterized by severe plasma leakage. Such condition may mimic the presentation of septic shock in which the principle management is different. Severe dengue requires fluid resuscitation, meanwhile septic shock warrant an administration of antibiotic. The contrast management yet overlapping characteristics of both conditions creates immense challenges in the clinical setting.

Case IILUSTRATION: A 4-year-old boy was admitted to the emergency department with high grade fever since 5 days prior to admission. The patient also experienced vomiting and diarrhea. On admission, the patient was in a decompensated shock condition. The patient was initially assessed as hypovolemic shock due to volume loss, but septic shock was also considered. Fluid resuscitation with crystalloid solution 20 mL per kilogram body weight was given twice. Serological examination showed positive IgM dengue and negative IgG dengue. Procalcitonin was markedly increased (50 ng/mL). Serial hematocrit study showed a 23% decrease value before and after fluid resuscitation. Evaluation of plasma leakage was then done by right lateral decubitus x-ray, showing no evidence of pleural effusion. Hypotension persisted after fluid resuscitation and ultrasonic cardiac output monitor showing decreased in low systemic vascular resistance index; patient was then considered septic shock, epinephrine and antibiotic were given immediately. After two hours of epinephrine drip, blood pressure was immensely increased, epinephrine was stopped and the intravenous fluid was adjusted for maintenance drip. Positive urine culture showed *Proteus mirabilis*, sensitive to current antibiotics. After three days of antibiotic therapy, the patient was markedly improved with stable hemodynamic.

Conclusion : Severe dengue with septic shock is a life threatening condition and requiring urgent management. Fluid resuscitation, broad spectrum antibiotics, and vasoactive agent can save the patient in critical state.

Keywords**:** Severe dengue, septic shock, children

ITD 06

Flowing Towards Hope: A Case Series of Paediatric Meningoencephalitis Tuberculosis with Hydrocephalus

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Pediatric Intensivist, Pasar Rebo Regional General Hospital

Background: Tuberculosis meningoencephalitis (TBM) is the most severe form of tuberculosis, causing high morbidity and mortality in children. Early diagnosis and targeted treatment can prevent major complications and future neurologic deficit. This study aims to describe our clinical experience with tuberculosis meningoencephalitis and to better understood the transmission of each Cases especially in early childhood age.

Case: This series of Cases included three paediatric patients, aged 1 month, 3 months, and 1 year, who were diagnosed with meningoencephalitis tuberculosis. They were admitted to the paediatric intensive care unit between May 2023 and July 2023. They transmitted TB from their closest caretaker. All three children exhibited varying degrees of altered mental states, varying from indifference to drowsiness, as well as a range of neurological impairments. They also displayed nonspecific symptoms like vomiting, low-grade fever, and inadequate feeding. Acid-fast bacilli were detected using GenXpert, although one patient yielded a negative result. Enlarged ventricles were observed in their CT scans, necessitating the need for surgical intervention. Subsequent to the surgery, these patients received anti-koch's treatment, with a planned regimen of ongoing monitoring and follow-up.

DISCUSSION: The management of paediatric meningoencephalitis tuberculosis (TB) remains a formidable challenge in the realm of paediatric neurology. The Cases described in this series demonstrate the complexities of diagnosing and treating this pathology, emphasizing the importance of a multidisciplinary approach.

KEYWORD: tuberculosis meningoencephalitis, paediatric neurology, infectious disease, hydrocephalus, Case series

ITD 20

Malaria in a 30 day old infant : A Case Report

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Background: Congenital malaria is relatively rare disease in the context of neonatal pathologies and also a life threatening disease. Congenital malaria is caused by transplacental transmission of malaria parasites from the mother to the baby in utero or during labour. Malaria is a disease cause by parasite that are transmitted through the bites of infected female *Anopheles* mosquitoes. Indonesia is one of the nine malaria endemic countries in the South-East Asia region.

Case: A 30 day old infant was admitted to hospital due to shortness of breath since 1 day a go. Three days before admitted baby had a fever, cough, rhinorrhea and feeding problems. The mother was diagnosed malaria vivax and treated by antimalaria. On admission physical examination showed a fever with tachypnea, tachycardia, rhonchi in both lung fields, and hepatosplenomegaly. The complete blood count showed leukocytosis, thrombocytopenia, and increased CRP. Rontgen thorax shows pulmonary infiltration. The baby was treated with antibiotic. On third day of hospitalization baby looked pale and complete blood count showed anemia and thrombocytopenia. Examination peripheral blood smear showed plasmodium falciparum and plasmodium vivax. The baby was diagnosed with congenital malaria and bronchopneumonia. The baby received a packed red cells transfusion to raise hemoglobin levels and antimalarial DHP doses for three days and discharge with good clinical condition.

Conclusion: Congenital malaria is a rare Case but the differential diagnosis must be considered for the incidence of neonatal fever in population at risk, even with mothers who have no proven malaria infection during pregnancy.

Keyword: Congenital Malaria, Neonatal Malaria.

ITD 30

Diagnosis and Treatment of Herpes Zoster in Adolescence with Lupus Nephritis: A Case Report

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Background: Herpes zoster is a dermatomal viral infection, caused by reactivation and multiplication of latent varicella-zoster virus in dorsal ganglion. Herpes zoster rarely occurs in immunocompetent adolescence. However, it can cause severe complications in immunocompromised condition including those with autoimmune diseases such as lupus nephritis.

Case: A 17-years-old girl was admitted to emergency room with painful reddish blisters three days prior to admission as her chief complaint. At first, blister appreared on the left back, then circularly multipled and spread to the left abdomen. The patient also had fever one day before the blisters appeared. During childhood, patient had history of varicella-zoster virus infection. The patient had been diagnosed with end stage renal disease and lupus nephritis six months before. She underwent hemodialysis twice a week regularly and received methylprednisolone, hydroxychloroquine, and mycophenolate mofetil. Dermatological examination showed grouped multiple vesicles with erythematous base and circular herpetiform configuration involving left T6-T7 dermatomes. Laboratory tests showed anemia, neutrophilia, lymphopenia, and thrombocytopenia. The patient was diagnosed as herpes zoster from clinical manifestations. She received acyclovir with dosage adjustment for hemodialysis patient 1x250 mg intravenous for seven days followed 4x500 mg oral for five days and fuladic oint as topical antibiotic. The patient was hospitalized for eight days and achieved clinical improvement.

Conclusion: Lupus nephritis is an autoimmune disease related with immunocompromised condition causing children more susceptible to herpes zoster infection. Early diagnosis and prompt treatment are required to prevent further complication.

Keywords: Adolescence, Herpes Zoster, Lupus Nephritis

ITD 37

A Case Report of Pertussis in a Child with Parental Vaccine Hesitancy

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Objective: Pertussis is a respiratory tract infectious disease caused by Bordetella pertussis. Despite global vaccination efforts, some countries including Indonesia still have a high disease burden and limited epidemiological data for pertussis due to delayed diagnosis. Among other factors like compromised immune function, history of incomplete vaccination remains one of the main risk factors of pertussis. This Case highlights one such Case of pertussis presenting in a child with parental vaccine hesitancy.

Case: A 1-year-old boy came to the hospital with a chief complaint of whooping cough for more than 3 weeks, accompanied by fever, rhinorrhea, and post-tussive vomiting. The diagnosis was confirmed with multiplex PCR. The patient was also diagnosed with hospital acquired pneumonia based on the presence of dyspnea over 48 hours after previous hospitalization as well as lung tuberculosis from further workup. The patient was treated with azithromycin and ceftazidime as well as anti-TB regimen (RHZ). The antibiotic was escalated to piperacillin tazobactam following inadequate response to initial treatment, and further continued with meropenem after which the patient showed clinical improvements. The patient had relatively good prognosis and was discharged after complete relief of symptoms.

Conclusion: Clinical findings as well as physical examination in this patient supported the diagnosis of pertussis, which are further confirmed with the multiplex PCR. Co-infections such as pneumonia and tuberculosis may have contributed to the clinical progression of this patient.

Keywords: pertussis, child, vaccine hesitancy

ITD 38

Typhoid Fever Induced Encephalopathy

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Objective: Typhoid fever can cause many complications. A rare serious complication is encephalopathy. This Case report describes a child diagnosed with typhoid fever complicated by encephalopathy that occurred in a remote area.

Case: A boy, 15 years old, weighing 53 kg was brought to the emergency room with decreased consciousness that had been experienced for the past one day. Previously, the patient had a fever for the last 4 days, especially in the afternoon. Complaints of vomiting were also found approximately 2 times per day. On admission with GCS 12 with the following vital signs: Temperature 38.1^{o}C, blood pressure 100/70, heart rate 75x/i, respiratory rate 22x/i. The physical examination found no abnormalities. On neurological examination, there was no focal deficit, no neck stiffness, no Kernig's sign and normal plantar reflexes. Laboratory results showed hemoglobin:12.7, leukocytes:6.900, platelets:304.000; current blood glucose:84; S-Typhi O:1/320; S-Typhi H:1/320. Immunoglobulin, electrolyte and blood culture tests were not carried out because there were no facilities. Then the child was given ringer lactate infusion fluid therapy 2160cc/24 hours, ceftriaxone 2x1 gr, dexamethasone 3x1mg/Kg , ondancentron 3x8 mg , paracetamol IV 530 mg if fever. On Day 2 the patient was conscious and other complaints had decreased. On day 4 the patient went home in good condition.

Conclusion: Encephalopathy is a dangerous complication of typhoid fever. If there is a child with high fever and encephalopathy, it must be suspected as a complication of typhoid fever. Adequate management must be given immediately including antibiotic and steroids.

Keyword: Typhoid Fever, Encephalopathy, High Fever, Antibiotic, Steroid.

ITD 43

Case Report: Multisystem Inflammatory Syndrome (MIS-C) associated with SARS-CoV-2 and Kawasaki Disease Induced by Dengue Fever

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Background : Complications of Covid-19 in children is still ever-evolving. One example is the emergence of multisystem inflammatory syndrome (MIS-C) in children, with clinical presentation and evolution similar to Kawasaki disease. A co-infection with dengue virus was found to precipitate this patient's condition.

Case: A four-year old male patient presented with a fever and hyperemic macules on the hands, back, and foot. He also had conjunctival hyperemia with no secretion and a strawberry tongue. Additional complaints included nausea and abdominal pain. The patient had no history of Covid-19, however the patient's father was recently diagnosed with Covid-19.
On admission, the patient also presented with flabby abdominal pain. Over the next several days, he developed a cervical swollen lymph node.
His blood test resulted in IgG positive for Covid-19, elevated D-dimer and CRP, IgM and IgG positive for Dengue, and normal ASTO.
Echocardiography showed pericardial effusion and on the fifth day it showed regurgitation of the tricuspid, mitral, and pulmonary valves.
The patient was diagnosed with MIS-C, Kawasaki Disease, and Dengue Fever and treated with antibiotics, immunoglobulin IV, and oral acetylsalicylic acid with a positive response to therapy.

Conclusion: MIS-C is a complication of COVID-19 that can occur in children. Kawasaki disease is an inflammatory reaction that can be precipitated by a viral infection. In this patient, these two diseases could not be separated because no investigation was carried out to eliminate the criteria for the disease.

Keywords: Covid-19, Kawasaki Disease, Multisystem Inflammatory Syndrome (MIS-C)

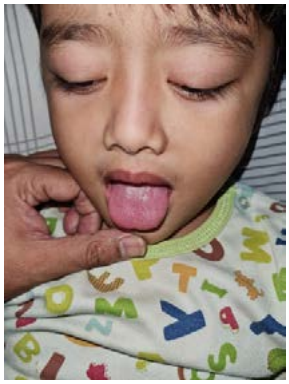
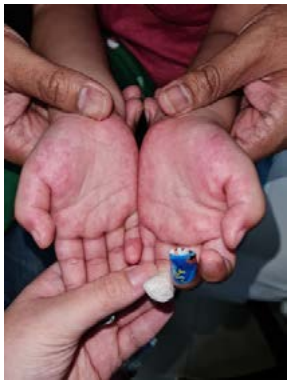
a.  b. 

Figure 1. Clinical features
a. Strawberry tongue. b. Hyperemic macules on the hands

ITD 61

Case Series :
Various Clinical Manifestations and Serological Results in Congenital Syphilis

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Objective: Congenital syphilis (CS) remains a major public health problem worldwide. Syphilis in pregnancy can be transmitted from mother to her fetus, causes stillbirth, spontaneous abortion (40%), perinatal death (20%), congenital syphilis or infants with low birth weight (20%).

Case : Case 1: A 3100 grams aterm neonate born from mother with reactive HIV and syphilis at 20 weeks gestation, didn't receive any treatment. Patient had reactive Treponemal pallidum hemagglutination assay (TPHA) and venereal disease research laboratory (VDRL) was non-reactive. The patient was treated with intravenous penicillin procaine G (50,000 units/kg/day) and Zidovudin orally for 6 weeks for prophylaxis treatment. The baby was discharged against medical advice.

Case 2 :A 2630 gram aterm neonate born from mother with reactive TPHA only at 30 weeks gestation and treated with injection benzatine penicillin. Patient's screening test of TPHA and VDRL were reactive, but no clinical manifestation.The baby was discharged against medical advice then lost to follow up

Case 3 : A 3180 gram aterm neonate presented with maculopapular rash, vesicles all over the body and spina bifida. The result of Head CT scan showed mild obstructive hydrocephalus. TPHA and VDRL were non-reactive. Direct blood smear showed spiral-shaped bacteria.The patient was treated with intravenous penicillin procaine G (50,000 units/kg/day). Sadly, the baby died due to sepsis

Conclusion: Serological tests play an important role for the diagnostic of CS. Therefore, another examinations such as blood or LCS smear and culture are still needed as a gold standart to correctly establish the diagnosis of CS.

Keywords: Congenital syphilis, clinical manifestation, serology examination

ITD 64

Fever of Unknown Origin due to Liver Abscess: A Case Report

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Objective: The cause of fever of unknown origin (FUO) is legion including of infection (42%), immune disorders (11%), collagen-vascular disease (10%), and malignancy (6%). Liver abscess is uncommon disease in children, with fever and abdominal pain as classical clinical presentation. Although rare, liver abscess should be considered whenever FUO is associated with abdominal complaints. We report a Case of pediatric liver abscess presented with fever of one month duration which had been worked up thoroughly as a Case of FUO with physical finding hepatomegaly. Abdominal ultrasonography and Computed Tomography were performed as modalities to confirm diagnosis. The patient showed full resolution after treating with antibiotics and percutaneous abscess drainage.

Case REPORT: An 11-year-old boy was admitted to Dr. Zainoel Abidin Hospital with chief complaint of fever during one month before admission and right upper abdominal pain. His physical examination was unremarkable except hepatomegaly and right upper quadrant tenderness on deep palpation. Laboratory data showed haemoglobin 8.5 g/dL, WBC 19,680 cells/mm^3, AST 71 U/L and ALT 70 U/L, procalcitonin 1,70 and positive CRP. Blood, urine and stool cultures were negative. Abdominal ultrasonography revealed hypoechoic lesion in the right lobe of liver (7,9 cm x 8,39 cm). Contrast computed tomography showed hepatomegaly with multiple hypodense lesions in the right lobe, consistent appearance as abscess. He was empirically started on metronidazole along with meropenem and underwent abscess percutaneous drainage.

Conclusion: The causes of FUO are legion and remains a challenge to all clinicians. Although rare, liver abscess should be considered whenever FUO is associated with abdominal complaints.

Keywords: Fever of Unknown Origin, Liver Abscess, Children, Abdominal Pain

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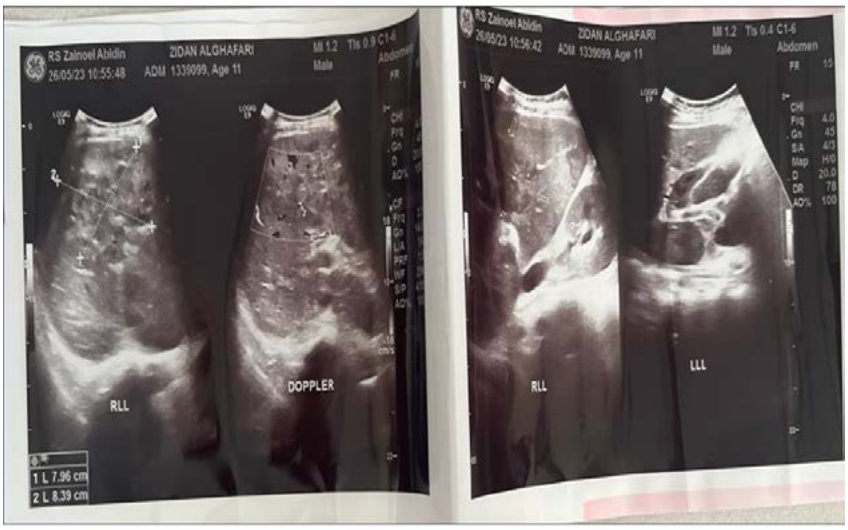
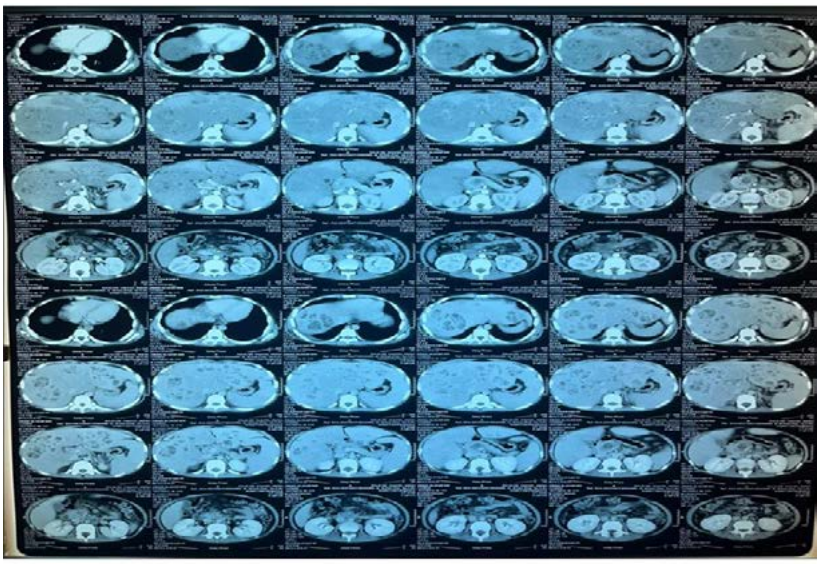
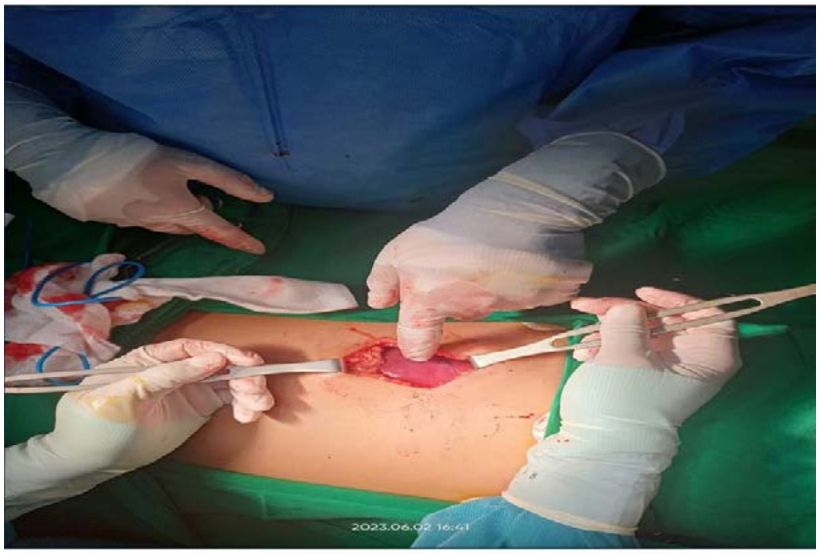


USG Abdomen : hypoechoic lesion (7,9 cm x 8, 39 cm)



CT Scan abdomen : multiple hypodense lesion



Laparotomy Abscess drainage

Abscess pus

Clinical photos of patients after percutaneous abscess drainage

Clinical photos of patients after percutaneous abscess drainage

ITD 74

One-Year Observation of Congenital Rubella Syndrome

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Background : Congenital Rubella Syndrome (CRS) is a group of clinical manifestation that caused by Rubella virus infection during pregnancy. Infection in early pregnancy has higher risk for organ malformation. The baby could have hearing impairment, congenital heart disease, microcephaly, congenital cataract.

Case : We report a Case of two months old girl infant with CRS and Cytomegalovirus infection. Patient was born spontaneously, full term with 2.450 grams birth weight. The mother has no complaints during pregnancy. The first clinical sign was congenital cataract. Laboratory findings in this patient were positive rubella immunoglobulin G, negative rubella immunoglobulin M, positive cytomegalovirus immunoglobulin G and positive cytomegalovirus immunoglobulin M. During one-year observation, patient had age-appropriate growth and development. Patient undergone ECCE (Extracapsular Cataract Extraction) on both eyes. No abnormality found in abdominal and brain ultrasonography imaging. Tympanometry and Brain Evoked Response Auditory (BERA) test showed normal result. Patient went echocardiography at 6-months old with normal intracardiac result. At 1-year old, the patient had completed immunization and normal nutritional status. Patient also can stand 2 seconds, waving bye-bye, babbling and play with parents.

Conclusion : Congenital Rubella Syndrome is a rare disease and can cause poor quality of life in children. Up to present moment, no effective antiviral drug to treat CRS. The patient only get symptomatic therapy. Patient with CRS needs holistic and continuous monitoring especially during the first year of life.

Keywords : Congenital Cataract, Congenital Rubella Syndrome, Cytomegalovirus infection

ITD 87

Malaria Vivax Plasmodium Found After Negative Subsequent Smears with Typical Clinical Features

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Objective: Malaria is caused by infection with intracellular protozoan parasites of the genus Plasmodium. In endemic areas, important risk factors for the severity of disease including age, relapses, and access to early diagnosis and treatment, along with prevalence of comorbidities. It is very important to find Plasmodium in smears to have an early diagnosis ant management. When Plasmodium is absent initially, patient with typical symptoms in endemic areas should undergo repeated malaria examinations.

Case: A 13 years 9 months old girl was admitted to the hospital with chief complaint of having fever in the past 3 weeks. The fever pattern was every 48 hours, and the patient experienced shivering when the fever arose. On physical examination, patient looked pale, liver was palpable 2-2cm below costal arch, spleen schuffner II. On laboratory result found anemia with hemoglobin 6.6 g/dL. Patient had 3 subsequent blood smears but failed to demonstrate Plasmodium. Blood test was referred to external laboratory and Plasmodium vivax was found in trophozoite and schizonts stadium. Patient was treated with 3 days of DHP and 14 days of Primaquine. After 3 days of DHP, no more parasite was found in smears and fever has resolved.

Conclusion: In endemic areas of Malaria, patients with typical symptoms of Malaria infection, when repeated thin or thick smear fails to demonstrate Plasmodium, another diagnostic test may become necessary. Second opinions to external or more advance laboratory may help to establish diagnosis and prompt to early treatment do achieve better outcome.

Keywords: Endemic, Malaria, Negative Smears, Plasmodium, Vivax

ITD 09

Profile and Clinical Manifestation of Congenital Rubella Syndrome in RSUP Dr. M. Djamil Padang 2020-2023

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Background: Congenital Rubella Syndrome (CRS) is a clinical symptoms due to rubella virus infection during pregnancy, crosses the placental barrier and infect the fetus, resulting in impaired fetal growth and birth defects.

Methodology: Retrospective study from January 2020 – June 2023 was carried out to collect data of CRS patient in M. Djamil Hospital aged under 12 months old suitable for category A, category B along with laboratory data of IgG and IgM rubella. All subjects were classified based on WHO criteria.

Results: Of all 72 subjects, 38 were male (52.8%), 34 were female (47.2%). Children underwent CRS screening at the age of <6 months old and 6 – <12 months old were 49 (68.1%) and 23 (31.9%) respectively, with mean 4.5 months old. Subjects that were included in category A diagnosed with congenital heart disease, cataract/ glaucoma and hearing impairment were 47 (65.3%), 25 (34.7%), 4 (5.6%) respectively. Pigmentary retinopathy was not found. The most common finding diagnosis in category B were microcephaly 22 (30.6%) and delayed development 21 (29.2%). Only 19 (26.4%) subjects had laboratory data. Subjects were categorized into confirmed CRS 2 (2.8%), clinically CRS 19 (26.4%), suspect CRS 34 (47.2%), and discard CRS 17 (23.6%).

Conclusion: The most common diagnosis of CRS patient in category A were CHD and cataracts, in category B were microcephaly and delayed development. There were only 26.4% patients had performed IgG and IgM screening. Adequate and complete data od CRS is is needed in diagnosis of CRS.

Keywords: Profile, Congenital rubela syndrome, Infection.

ITD 29

Characteristic of Pediatric Sepsis in The Pediatric Intensive Care Unit of Dr. Moewardi Hospital Surakarta

Azizah Chairiani, Husnia Auliyatul Umma, Sri Martuti

Background : Pediatric sepsis remains a significant cause of morbidity and mortality worldwide. This study aimed to identify the clinical profile and characteristic of sepsis among patients admitted to the pediatric intensive care unit (PICU) of Dr. Moewardi Hospital Surakarta.

Methods : A retrospective cohort study was conducted in the PICU from Dr. Moewardi Hospital Surakarta the total sample collected between Apil 1, 2022 and June 30, 2023. A total 16 patients admitted to the PICU were screen and evaluated for sepsis using Diagnosis and Management of Sepsis in Children's Consensus of Indonesian Pediatric Society.

Results : 20 total admission to the PICU met the definition of Sepsis. Twelve patients (60%) were male. Eight patients were less than 6 years old (40%). Six patients (30%) had underlying comorbidities. The respiratory system was the most common primary site of infection (85%) meanwhile nine patients (45%) also had blood culture as other site of infection. Bacterial infection and confirmed COVID infection were the most common infectious etiology. The most bacterial founded in the blood was Staphylococcus hominis ss. Hominis, in sputum Pseudomonas aeruginosa. The median duration of PICU stay was 2 days and the 19-day PICU.

Conclution : Respiratory as the primary site of infection in our PICU is the most cause of sepsis in our centre and Pseudomonas aeruginosa is the most bacterial founded in the sputum culture. Nationwide studies identifying sepsis characteristic are needed to improve the outcome of pediatric sepsis diagnosis.

Keywords : Bacterial, Culture, Infection, PICU, Sepsis

ITD 32

The Association Between Loss of Consciousness and The Incidence of Multidrug Resistant Organism (MDRO) in The PICU of Moewardi General Hospital

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Background
The risk factor for multidrug resistant organism (MDRO) in the Paediatric intensive care unit (PICU) remain unclear. It be expected by disfunction of innate immunity at the loss of consciousness patients. This situation can make they easily infected by gram-negative bacteria. The aim of this study is to find out the corelation between loss of consciousness and MDRO.

Method
A cross-sectional study at PICU Moewardi general hospital. The subjects are paediatric with sputum culture, blood culture or urine culture with MDRO organism between December 2021 to January 2022. It analysed patient with MDRO, sex, age and loss of consciousness.

Result
Total samples are 81 patients. Mosty female patients (43 subjects) with age more than 10 years old (32 subjects) with MDRO culture 51 subjects. The patients who loss of consciousness is 37 patients.

In this study, patients with loss of consciousness and MDRO are 28 subjects (54.9%), p-value 0.030 ($p<0.05$) and the odds ratio is 2.84. The Association between MDRO and age has p value 0.652, and then MDRO with sex has p value 1.000.

Conclusion
There is association between loss of consciousness and the incidence of MDRO, where patients with loss of consciousness have a 2.84 times greater risk of developing MDRO.

ITD 36

The Association Between Total Parenteral Nutrition and the *Incidence of Multidrug Resistant Organism* in dr. Moewardi Hospital, Surakarta

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Background : Patients with the critical condition who receive TPN have a higher risk of infection due to the organism that easily grow in TPN and high osmolarity content. Therefore these patients have a risk of developing MDRO. We conducted this study to determine the association between TPN and the incidence of MDRO.

Methodology : A cross sectional study was conducted in children treated in PICU of dr. Moewardi Hospital Surakarta from january to december 2021 who had blood examination, sputum and urine cultures. The association between TPN and MDRO was analyzed stastically by using bivariat analysis with chi square.

Results : The total subjects were 81, most of whom were female (n = 43 ; 53.1%). Most subjects were over 10 years old (n = 32 ; 39.5%). Fifty One subjects had MDRO in which 30 of them received TPN (58.8%) (p = 0.012). Bivariat analysis with chi square test obtained OR = 3.33 (95% CI = 1.28-8.70), indicating that patients with TPN are at risk of developing MDRO by 3.33 times greater than patients who do not received TPN.

Conclusion : Patients receiving TPN have a 3.33 times higher risk of developing MDRO, indicating that TPN significantly relates to MDRO

Keyword : TPN, MDRO, PICU

ITD 44

Clinical Profile of Measles Among Children as Re-emerging Disease after Pandemic: an Observational Study in Primary Care Hospital, Jakarta

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Objective: Measles is a contagious disease that occurs in children caused by morbillivirus. The prevalence has been increasing worldwide as a re-emerging infectious disease. According to the World Health Organization (2021), 128,000 measles deaths were estimated, mostly among children <5 years old. Data shows only 81% of children worldwide receive the first dose of measles vaccine, which shows a reduction of vaccination routines during the COVID-19 pandemic. The study aims to evaluate the clinical profile of measles in inpatient children towards improving immunization coverage in Mampang Prapatan district and prevention of the disease.

Methodology: Observational study was conducted in the Pediatrics Department of a governmental hospital in Jakarta. Patient data were collected from January to July 2023 and statistical analysis was performed.

Results: The study shows children with fever and maculopapular rash were tested for IgM-positive antibody titre. Participants included age groups of 0-1 years old (45%), 1-5 years old (40%), and >5 years old (15%) unvaccinated. Patients aged <9 months were known to have contact from unvaccinated family members. Estimated 70% of patients developed complications in upper respiratory tract infection, 30% with gastroenteritis, and 10% with bronchopneumonia. Patients with pneumonia complications were referred to other hospitals for further therapy, while other patients were discharged from the hospital after recovery.

Conclusion: Patients in the study were 75% unvaccinated. Some show a lack of parent's knowledge and access to hospital care due to the lockdown during the pandemic. The study indicates vaccination campaigns and better health coverage should be done.

Keywords: Immunization, Measles Outbreak, Measles, Vaccination

ITD 53

Evaluation of Antibiotic Use Corresponding with Standard Treatment Guidelines Towards Disease Recovery in Children with urinary Tract Infection and Factors Related

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Background/Objectives. Rational use of antibiotic for urinary tract infection (UTI) promotes disease recovery, prevents complications, and prevents antibiotic resistance. This research aims to evaluate rational use of antibiotic using Gyssens flowchart, to assess recovery rates of patients treated with standard treatment guidelines, and to find factors associated with disease recovery.

Method. Descriptive study with cross-sectional design that conducted retrospectively on UTI pediatric patients hospitalized in RSCM.

Results. Gyssens flowchart showed antibiotic were rationally used in 53% subjects. UTI recovery was significantly associated with antibiotics according to guideline recommendations compared with other antibiotics (88% vs 74%, p = 0.05). Risk factors associated with UTI recovery were male gender (p=0.04, adjusted OR 2.1 (95% CI 1.03-4.30)) and condition without comorbidities (p<0.01, adjusted OR 5.7 (95% CI 1.64-20.05)).

Conclusion. Patients treated according to standard treatment guidelines had better recovery rates

Keywords: antibiotic standard treatment guidelines; urinary tract infection.

ITD 08

Septic Shock Complication on Measles-Related in A 6 Year Old Malnourished Boy

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Background
Malnourished children are more prone to experiencing health problems, especially if they haven't received vaccines. When these children encounter health issues, infections can spread throughout their bodies, potentially leading to sepsis. On the other hand, measles has become a common disease in early 2023 with more than 2000 Cases whereas pneumonia and gastroenteritis are common complications of measles. The clinical feature of measles is exanthema, which manifests as red spots on both external and internal surfaces. If exanthema occurs in the alveolar mucosa, it can lead to alveolar inflammation and pneumonia. Similarly, if it occurs in the gastrointestinal mucosa, it can cause mucosal inflammation and diarrhea. The primary treatment for measles is symptomatic and can be easily administered in the early stages. However, if left untreated, it can lead to serious complications requiring comprehensive intervention.

Case
A 6-year-old boy arrived at the emergency ward with a chief complaint of a disseminated rash from his thigh to his entire body, which had appeared 2 days prior. He had experienced fever and diarrhea, occurring 4 days before, with a frequency of 5-8 times a day. The consistency of the diarrhea was more watery than fecal waste, and no mucus or blood was detected. The patient had a complete history of basic vaccinations and no record of febrile seizures.
With a weight of 11.2 kg and a height of 110 cm, the patient exhibited signs of malnutrition. Vital signs indicated hypotension (80/50 mmHg), tachycardia (150 beats per minute), tachypnea (40 breaths per minute), with a normal oxygen saturation of 96% and a normal temperature. Hyperemia was observed in the conjunctiva of both eyes. Rales were detected in both lungs, along with mild retraction below the diaphragm. Skin turgor was diminished, and generalized macula erythema was present on his body. Laboratory findings revealed leukocytosis with moderate hyponatremia. Expert analysis of a chest x-ray suggested the presence of pneumonia.

Keyword: measles, pneumonia, malnutrition, septic shock

ITD 39

Eye Infections as A First Presentation and Survival Retinoblastoma in National Eye Center, Cicendo Eye Hospital, Bandung:7-year Retrospective Cohort Study

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Background: Retinoblastoma is the most common, paediatric primary intraocular malignancy. Retinoblastoma occurs in 6% of children with cancer less than 5 years of age. Retinoblastoma may present with a diverse range of signs and symptoms and can masquerade as uveitis or infection. Diagnosis of retinoblastoma is difficult in patients who present atypically. The aim of the study is to report eye infections as a first presentation and its survival in Retinoblastoma.

Methodology: This study used a retrospective Cohort methodology.

Results: In the 7 years from 2016 to 2022, there were 15 (4.8%) out of 316 patients with a first complaint of infection. Male patients 9 patients (60%) , female patients 6 patients (40%), with an average age of 47 months. There were 9 patients with unilateral retinoblastoma (60%), and bilateral retinoblastoma were 6 patients (40%). Range of lag time of 0–6 months (66.7%). Most of patients performed ultrasonography (USG), evaluation under anesthesia (EUA), Retinal Camera, and imaging. All final diagnosis are retinoblastoma. Overall survival data was available for 13 out of 15 patients; there were 9 patients alive (60%), 4 patients deceased (26.7%), and 2 (13.3%) patients could not be contacted. Follow-up time range from 1 year 2 months to 5 years 11 months.

Conclusion: Although the first presentation is not white pupil, we have to vigilant of retinoblastoma if a patient has eyes infections because retinoblastoma will be life-threatening. Retinoblastoma with eye infections as a first presentation will make the lag time shorter and increased survival rate.

Keywords: Eye infections, First presentation, Retinoblastoma.

ITD-2-01

Congenital syphilis; a Case series.

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Objective: Syphilis remains a global problem with an estimated 12 million people infected each year, despite the existence of effective and inexpensive treatment options. Mother-to-child transmission of syphilis (congenital syphilis) is usually devastating to the fetus if maternal infection is not detected and treated sufficiently early in pregnancy. In 2012, an estimated 350 000 (three hundred and fifity thousand) adverse pregnancy outcomes worldwide were attributed to syphilis, including 143 000 (a hundred fortythree thousand) early fetal deaths/stillbirths, 62 000 neonatal deaths, 44 000 preterm/low-birth-weight babies and 102 000 infected infants. The purpose of this Case presentation is to address that the opportunity given to us to prevent congenital syphilis is widely open. We reported 3 confirmed Cases of congenital syphilis.

Case illustration: We reported confirmed Cases of congenital syphilis (CS). No adequate treatment was given to the mother during the pregnancy. All the newborn presenting with no spesific features of congenital syphillis. The physical examination of all three patients shows no spesific result. Neverthless, in all three Cases, the RPR and TPHA were reactive both in mother and the baby. The baby RPR titer was fourfold than the mother. The CSF evaluation of the baby was conducted. The result was reactive too. There is only one Case presenting with osteitis and periostitis. We treated all the Cases with penicillin procaine given intramuscular for 10 days. The outcome of the all the patient was good.

Conclusion: More than 60% of infected infants are asymptomatic at birth. Despite the facts that CS is preventable, there are several things that could be a threat. Generally, the diagnosis and initiation of treatment for CS are based on detailed history-taking, physical examination, previous serological tests, maternal medication use, and serological assays of the newborn and mother at the time of deliver. It has been clearly shown that screening of pregnant women for reactive syphilis serology, followed by treatment of seropositive women, is a cost effective, inexpensive, and feasible intervention for the prevention of congenital syphilis and improvement of child health.

Keywords: congenital shyphilis, penicillin procaine

ITD 12

Malaria and Helminth Co-Infection in A Severely Stunted Child in Sorong West Papua: A Case Report

Elizabeth Liembers, Soraya Salle Pasulu

Herlina Hospital, Sorong, West Papua

Background: Co-infections of malaria and soil-transmitted helminth (STH) are common public health problems in endemic areas and can result in severe morbidity. These parasites may cause anemia, cognitive impairment, organ dysfunction and undernutrition. While undernutrition also increases susceptibility to infection. However, there is little information on the effect of malnutrition on therapeutic responses to artemisinin-based combination therapy (ACT) in published literature. Here, we present a Case of a severely stunted child who suffered from malaria and helminth co-infection and responded well to the treatment.

Case: A 3-year-old male child was admitted with high-grade fever for 7 days, malaise, loss of appetite and worms in his feces. He appeared pale and weak. The height-for-age z-score was below -3 SD and the weight-for-height z-score was below -2 SD. Physical examination showed hepatosplenomegaly. Laboratory studies showed hemoglobin 6,9 g/dL , leukocyte 4,100 /µL , total platelet 77,000 /µL. Malaria smear was positive for *Plasmodium vivax*. Stool sample showed *Ascaris lumbricoides*. The patient was given dihydroartemisinin-piperquine (ACT) and primaquine to treat malaria, albendazole to treat helminthiasis. Additionally, he was given 100 ml of packed red cells to treat anemia. After 4 days of treatment, the patient's symptoms subsided and he was discharged from the hospital.

Conclusion: Malaria and STH co-infection in stunting is a complex interactions. In this Case, early diagnosis and simultaneous treatment of the co-infection resulted in good response despite the nutritional status and complications. However, further studies are needed to better understand the effect of ACTs in undernourished children.

Keywords: ACT, Co-Infection, Helminthiasis, Malaria, Stunting

ITD 31

Challenging Fluid Resuscitation of A 5-Month-Old Infant with Acute Diarrhea, Dehydration, Malnutrition, Cyanotic CHD in Rural Hospital: A Case Report

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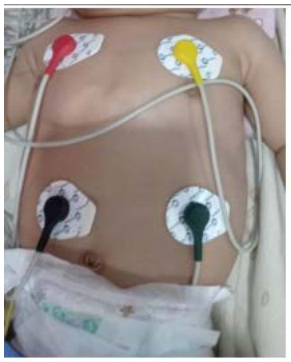
Department of Pediatric, Dr. Sayidiman Magetan General Hospital, East Java, Indonesia

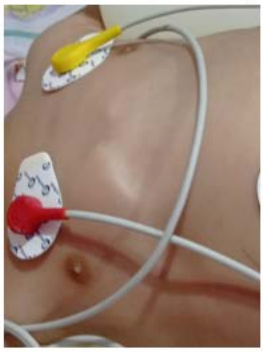
Objective: Diarrheal disease ranks first among the ten biggest diseases in infants and children, still holds a high number of morbidity and mortality that it causes. The complications such as dehydration can lead to death if it is not treated immediately and correctly. Fluid resuscitation plays a big role in acute diarrhea with dehydration, especially if this disease occurs in patients who specifically suffer from malnutrition and heart disease that are related to circulation, so this is of course not easy.

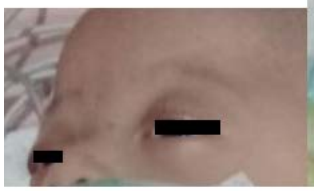
Case: We reported a 5-month-old infant transferred to the emergency unit of Sayidiman Magetan Hospital with diarrhea and a high fever. The patient had >15 times diarrhea, shortness of breath, and a sudden high fever since one day before. The patient was lethargic. On physical examination, the patient had sunken eyes, dry lips, and decreased turgor pressure with poor vital signs. His nutritional status was: malnutrition with very low body weight. He had a complex cyanotic CHD history. We diagnosed the patient with acute diarrhea with severe dehydration, malnutrition, and cyanotic CHD. We carefully gave the fluid resuscitation and calculated the fluid balance. The patient was then treated and monitored in PICU for 8 days and discharged from the hospital after he was getting well.

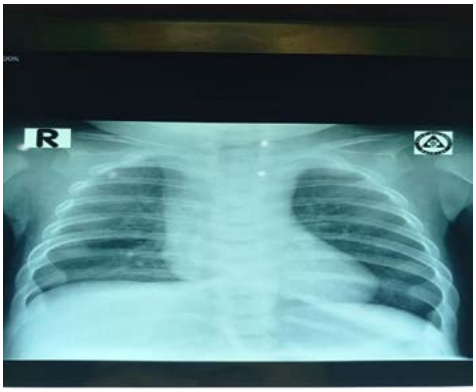
Conclusion: Acute diarrhea with severe dehydration must be managed with extra care, especially in infants with malnutrition. We must treat based on each phase, and also holistically consider the comorbid such as congenital heart disease due to the heart functions and circulation.

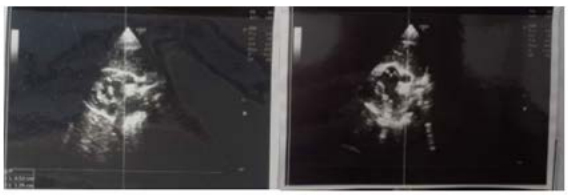
Keywords: Fluid Resuscitation, Dehydration, Diarrhea, Malnutrition

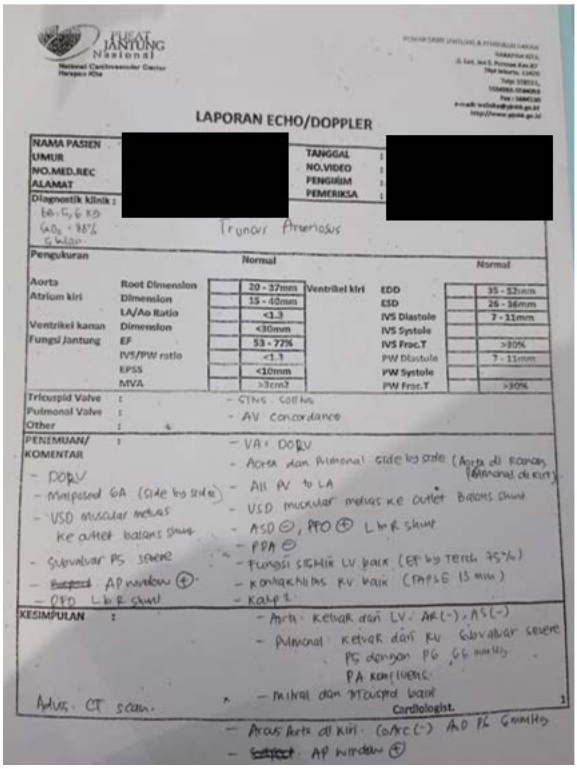












PUSAT JANTUNG Nasional

LAPORAN ECHO/DOPPLER

NAMA PASIEN : [redacted]
UMUR
NO.MED.REC
ALAMAT
TANGGAL
NO.VIDEO
PENGIRIM
PEMERIKSA : [redacted]

Diagnostik klinik : Trunci Arteriosus

Pengukuran		Normal			Normal
Aorta	Root Dimension	20 - 37mm	Ventrikel kiri EDD		35 - 52mm
Atrium kiri	Dimension	15 - 40mm	ESD		26 - 36mm
	LA/Ao Ratio	<1.3	IVS Diastole		7 - 11mm
Ventrikel kanan	Dimension	<30mm	IVS Systole		
Fungsi Jantung	EF	53 - 77%	IVS Frac.T		>30%
	IVS/PW ratio	<1.1	PW Diastole		7 - 11mm
	EPSS	<10mm	PW Systole		
	MVA	>3cm2	PW Frac.T		>30%

Tricuspid Valve : - CTAR cotton
Pulmonal Valve : - AV concordance
Other :

PENEMUAN/ KOMENTAR :
- VA : DORV
- Aorta dan Pulmonal side by side (Aorta di kanan, Pulmonal di kiri)
- All PV to LA
- VSD muskular meluas ke outlet Bagian Shunt
- ASD ⊖, PFO ⊕ L to R shunt
- PDA ⊖
- Fungsi sistolik LV baik (EF by teich 75%)
- kontraktilitas RV baik (TAPSE 15 mm)
- Katup :

- DORV
- Malposed GA (side by side)
- VSD muscular meluas ke outlet bagian shunt
- Subvalvar PS severe
- Suspect AP window ⊕
- PFO L to R shunt

KESIMPULAN :
- Aorta keluar dari LV. AR(-), AS(-)
- Pulmonal keluar dari RV Subvalvar severe PS dengan PG 66 mmHg
- PA konfluens
- Mitral dan Tricuspid baik

Cardiologist.

Advis : CT scan.

- Arcus Aorta di kiri. CoArc(-) AO PG 6 mmHg
- Suspect AP window ⊕

ITD 48

Pertussis – The Long-Forgotten Culprit

Aqilah Nurfadhilah Baharuddin, Gione Giandito

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Background: Pertussis is a highly contagious upper respiratory tract disease. This etiology had long been neglected owing to the childhood immunization of DPT vaccine. Despite a vaccine-preventable disease, pertussis lately has reemerged. This is allegedly due to destitute immunization coverage during the COVID-19 pandemic.

Case: A 3-year-old boy presented with a chief complaint of whooping cough, subconjunctival bleeding, and post-tussive vomiting. The patient had a history of only acquiring Hepatitis B 0 vaccine. Bilateral intercostal retraction and rhonchi were found. Laboratory revealed dominant leukocytosis, reactive thrombocytosis, and neutrophilia. Chest X-ray showed bilateral infiltrates. The patient was initially diagnosed with bronchopneumonia. Initial therapy of antibiotics was given but showed no improvement. Due to symptoms worsening and distinctive cough, we suspected pertussis. Azithromycin was commenced on day 2. Considerable improvement was later recognized. Isolation of the pathogen was not done due to our limited facilities. The patient recovered at discharge.

Conclusion: Pertussis still exists among us and should be considered in every patient with chronic cough. Furthermore, immunization coverage should be performed immediately.

Keywords: pertussis, whooping cough, immunization

ITD 76

Dengue Encephalopathy: A Case Report on a Rare Manifestation of Dengue Infection

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Clinical Practitioners, Atma Jaya Catholic University of Indonesia, North Jakarta, Jakarta, Indonesia

Background/Objective:
Dengue encephalopathy is an uncommon complication in dengue Case (0.5-28%), as the virus is considered non-neurotropic. The actual incidence of dengue encephalopathy tends to be underreported and misdiagnosed. Early recognition of warning signs and aggressive management with prompt therapy are essential to reduce mortality.

Case:
An 11-year-old girl, without comorbidities, was admitted to the emergency department with altered mental state. She had a 1-minute generalized tonic-clonic seizure 6 hours prior, alongside intermittent fever peaking at 40°C. Associated symptoms included nausea, non-bilious vomiting, and anorexia for 4 days before admission. There was no abdominal pain, dyspnea, rash or diarrhea. Examination showed her afebrile (36.9°C), with regular pulse rate (98 beats/min), normal respiratory rate (25 breaths/min), normal blood pressure (110/70 mmHg), Glasgow Coma Scale of 14/15 (eye-opening 3/4) and bilaterally reactive pupils. Neurological examination found positive Meningeal, Brudzinski I, Brudzinski II, Kernig, and Lasegue signs. Other systemic examinations were normal. Routine blood examination indicated marked hemoconcentration (46.1%), thrombocytopenia (54,000/µL), elevated CRP (17.78 mg/dL), and slightly impaired renal function (eGFR 65 mL/min1.73m^2, ureum 66.6 mg/dL, creatinine 1.28 mg/dL). Dengue diagnosis confirmed by serum antibodies. Chest x-ray showed right pleural effusion (Figure 1).

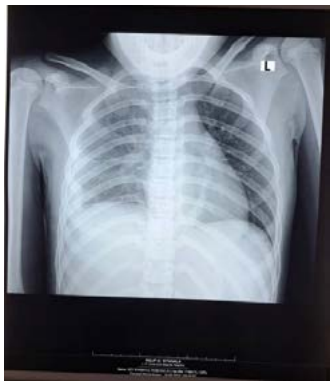

Figure 1: Chest x-ray showed right pleural effusion

Conclusion:
Dengue encephalopathy should always be considered as the potential neurological complications in patients presenting with fever, altered mental status, and seizures, particularly in regions with endemic dengue infections.

Keywords: Dengue, encephalopathy, pediatric, endemic

ITD 13

Myocarditis as Cardiac Complication following Diphtheria infection in Children: a Case report and Systematic literature review

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Background
The diphtheria outbreak was declared in Garut in February 2023, involving 75 Cases and resulting in 12 deaths. Diphtheria is an acute respiratory disease that can be life-threatening caused by *C.diphtheriae*. Myocarditis is the second most common complication of diphtheria. This study aimed to summarize cardiac complication clinical features after diphtheria infection through a Case report and systematic review, given the high fatality rate of such complications.
Methodology

We report a Case of patient data that retrieved retrospectively from patient files at Garut General Hospital. A systematic review was carried out utilizing the PubMed and Google Scholar databases to identify all reports on patients with diphtheria myocarditis from 2013 to 2023. The main outcomes assessed were the characteristic of subject and clinical sign in order to confirm the diagnosis.

Results

A girl aged 5 years with symptoms of shortness of breath, cough, and edema after discharged because of diphtherial infection. The ECG showed T inverted. The chest X-ray showed enlargement of the heart with CTR 69,5%.
A total of 20 articles were included: three prospective analysis, two retrospective Case series, one retrospective cohort study, and two Case reports and the rest was observational study. Incidence rate of myocarditis is 23%. Children that unimmunized and aged 6-10 were at higher risk of Myocarditis diphtheria and experiencing a fatal course.

Conclusion
This Systematic review study showed that myocarditis diphtheria can be a tools to predict the mortality. Future research should investigate how to manage complications of diphtheria infection to reduce the fatality rate.

Keywords**:** Diphtheria infection, Myocarditis, Pediatric.

ITD 24

Incidence of Measles Presenting with Pneumonia in Ende East Nusa Tenggara: Awareness of Re-Emerging Disease

Nurmasithah, Brenda Cristie Edina, Natashya Philipa Ngada Ngasu, Danny Jaya Yacobus Ardanta Dat Topik Tarigan[2]

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Pediatric Department, Ende General Hospital, Ende, East Nusa Tenggara, Indonesia

Background/Objective: Measles is one of the highly contagious infectious diseases that commonly affecting children. There were increasing Cases of measles in Indonesia, particularly during the COVID-19 pandemic. According to the data collect until 2022, there were 3.341 confirmed Cases of measles reported in Indonesia. Several provinces in Indonesia have also reported measles outbreak in 2022, including East Nusa Tenggara. These Case series aim to report two Cases of measles in less than two weeks period with no history of measles vaccination as a major contributing factor of measles incidence in Ende.

Case: We reported two Cases of measles presenting with pneumonia hospitalized to Ende General Hospital between two weeks. Both of the patients suffered from fever and pathognomonic maculopapular rash radiating from the neck and spreading to the extremities. The two patients also suffered from conjunctivitis, cough, and coryza. Both of the patients have no history of measles vaccination. Based on physical examination with high grade fever, Koplik's spots were found in both of the Cases, chest wall retractions, and ronchi. Based on the laboratory result revealed leucopenia and chest radiography revealed patchy infiltrate that characterized as pneumonia.

Conclusion: Measles has become a re-emerging disease due to COVID-19 pandemic that makes lower immunization coverage. Therefore, catch-up immunization, expanding basic and advanced immunization coverage are essential to avoid the resurgence of measles outbreaks.

Keywords: Measles, Pandemic, Immunization Coverage, Pneumonia

ITD 57

Sepsis Associated Acute Kidney Injury in Limited Resource Setting

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Objective: Sepsis is an uncontrolled immunological host reaction to infection that causes organ dysfunction. Sepsis-associated acute kidney injury (SA-AKI) is the most frequent organ dysfunction and associated with increased morbidity and mortality.

Case: An 8-month-old girl presented to emergency room (ER) with decreased consciousness since two hour ago. History of cough, fever, and shortness of breath were noted. We found cold extremities, mottled skin, fever, bradycardia, and rapid breathing. Her quick SOFA score was 2, leukocytosis (27.500/µL), high creatinine level (4.7 mg/dL), fluid balance +365 ml/6 h, and chest X-ray showing bilateral infiltrates. Management of the sepsis bundle was initiated by administration of vasopressors (dopamine) and broad-spectrum antibiotics (ceftriaxone). The patient was intubated to reduce work of breathing and stabilize hemodynamics. There was no urine production after 6 hours of observation in emergency room. The patient died while waiting for transfer to another hospital with more advanced care.

Conclusion: The adequate preventive of AKI, early diagnosis, and therapeutic approaches in critically ill septic patients, are still a challenge for clinicians. There is no specific biomarker for particular septic or ischemic renal damage.

Keywords: Acute kidney injury, SA-AKI, septic shock.

ITD 10

Diphtheria Outbreak in Garut, Indonesia: Epidemiological Characteristics And Vaccination Status

Euis Anisa, Asri Rachmawati

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Background:
Vaccination can prevent highly fatal diphtheria. The diphtheria outbreak was announced in Garut in February 2023, with 75 Cases and 12 deaths recorded up until July 31, 2023. Most of the Cases were reported from Pangatikan (36%). The study aims to establish the relationship between vaccination status and diphtheria Cases.

Metodology:
This was a descriptive cross-sectional study that utilized data from the Garut Health Office. The variables included epidemiological characteristics and diphtheria vaccination status, which were analyzed using univariate analysis.

Result:
The outbreak primarily affected children, with the highest number of Cases occurring in the age groups of 6-11 years (23%), 0-5 years (17%), and 12-18 years (11%).

Figure I. Age charactheristic of diphtheria Cases

Variable	Frequency (n)	Percentage (%)
Age (years)		
0-5	13	17
6-11	17	23
12-18	8	11
>18	37	49
Total	75	100%

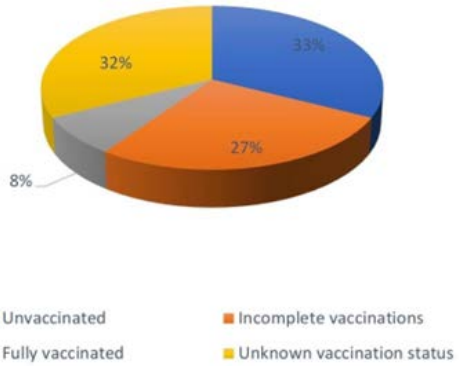
The death Cases consisted of 4 confirmed Cases and 8 Cases with epidemiological linkage. Out of these, 10 deaths were reported from Pangatikan, which serves as the epicenter where immunization coverage has not been achieved.

Figure II. Immunization coverage in Pangatikan

Village	2019	2020	2021	2022
Babakan Loa	95,6%	69,3%	63,4%	91,1%
Sukahurip	60,0%	43,7%	35,3%	80,0%
Cimaragas	95,1%	58,6%	60,3%	85,9%
Cihuni	96,4%	69,3%	47,5%	93,1%
Citangtu	96,8%	95,7%	76,7%	93,6%
Sukarasa	99,0%	79,7%	76,3%	98,3%
Karangsari	99,0%	87,8%	74,3%	90,5%
Sukamulya	98,3%	87,4%	68,0%	91,3%

The region's geographical terrain is mountainous, resulting in limited access to health services. Mothers being farmers can make it challenging to bring children for immunization. There is a belief among some that vaccines are prohibited under Islamic law, leading to rejection. The vaccination status of diphtheria Cases is primarily characterized by unvaccinated individuals (33%), Cases with unknown vaccination status (32%), incomplete vaccinations (27%), and fully vaccinated individuals (8%).

Figure III. Vaccination status of diphtheria Cases



Conclusion:

The effectiveness of complete diphtheria immunization is vital, as expanding immunization coverage provides substantial safeguarding. Enhancing community leader participation, following immunization schedules, and ensuring the three-dose diphtheria vaccine is given during outbreak response are critical measures to stop the outbreak.

Keywords:

Outbreak Diphtheria, Immunization, Pediatric

ITD 27

Procaine Penicillin G in Treating Congenital Syphilis of Newborn with Skin Manifestations: A Three-Month Follow-Up Case Report

Melania Ilona Inviolata Tnano, Ernita Selviana

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Background: Congenital Syphilis (CS) is caused by vertical transmission of the *Treponema Pallidum* bacterium during pregnancy. According to WHO, globally in 2020, CS Cases increased significantly. Inadequate therapy may lead to infant death. Procaine Penicillin G is one of the recommended drug options for treating CS.

Case: A 12-day-old baby was brought to the hospital with multiple maculopapular rashes on the face, chest, abdomen, and genital area. The baby was full term, with normal birth weight, and no respiratory distress at birth. The mother had a history of miscarriage in a previous pregnancy. A Venereal Disease Research Laboratory (VDRL) test was performed for both the baby and mother and the result was positive. The baby was diagnosed with CS and treated with Procaine Penicillin G 50,000 units/kg body weight/dose, intramuscularly (IM), once daily for 10 days. On the 10th day of the Procaine Penicillin G injection, the maculopapular rashes were reduced. After three months, the skin condition was completely improved and the VDRL test also showed negative results.

Conclusion: Administration of Procaine Penicillin G for 10 days in CS with skin manifestations showed complete clinical improvement and serologic changes after three months post-injection.

Keywords**:** Congenital Syphilis, Procaine Penicillin G, VDRL

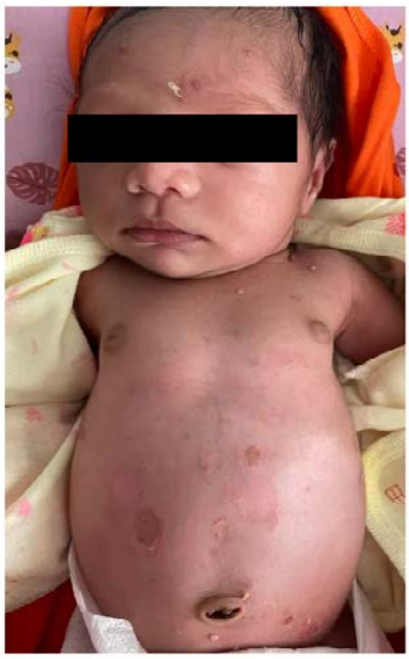

Fig 1. Multiple maculopapular rashes before Procaine Penicillin G administration

Fig 2. 10 days after Procaine Penicillin G administration, multiple maculopapular rashes were reduced

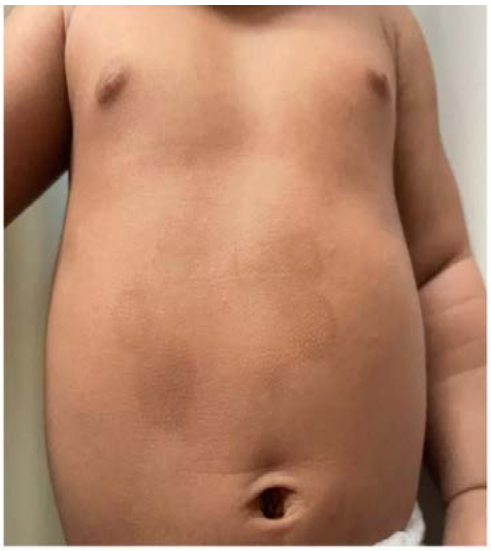

Fig 3. After 2 months, the skin condition appeared hyperpigmented

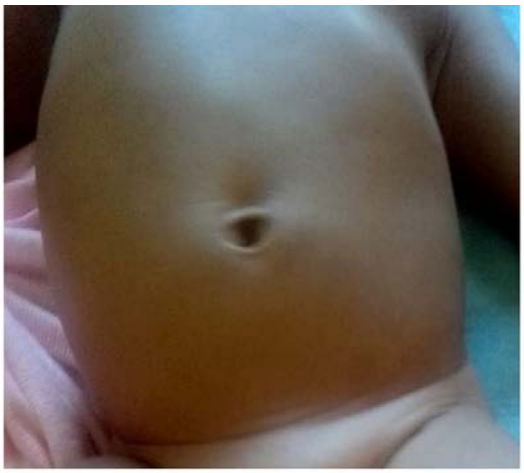

Fig 4. After 3 months, the skin condition was completely improved

ITD 63

Pleural Effusion and Ascites in Child with Dengue Haemorrhagic Fever and Its Management

Asterisa Retno Putri, Runi Arumndari, Claudia Natasha Liman, Anak Agung Made Sucipta

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Pediatrician, Pediatric Department, Wangaya General Hospital, Denpasar, Bali

Background: Dengue haemorrhagic fever (DHF) is a disease caused by dengue virus type 1-4, Indonesia is still one of the countries that experience endemic DHF. DHF Cases are reported to have increased year after year and the mortality rate is also increasing, so it is necessary to establish the right diagnosis and management quickly in handling this Case.

Case: A 1 year old girl was referred to Wangaya General Hospital, came with fever, lethargic, nausea and vomiting, with thrombocytopenia. The patient experienced shock on the first day of treatment, the patient received fluid resuscitation but on the second day the patient obtained vital signs with blood pressure 90/60 mmHg, pulse frequency 116 times per minute with weak pulse, respiratory frequency 30 times per minute, O2 saturation 97%. On physical examination the patient appeared limp, chest wall retraction, rhonchi on both lung basal, abdominal distension with abdominal circumference of 48 cm, and cold acral, diuresis calculated at 5 cc/kg/h for 6 hours, radiologic examination revealed a right pleural effusion and ascites. The patient was then given furosemide therapy and experienced clinical improvement and could be discharged after seven days of treatment.

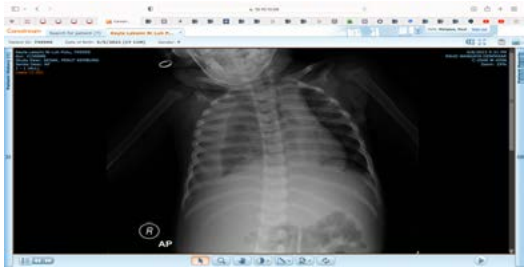

Figure 1.1

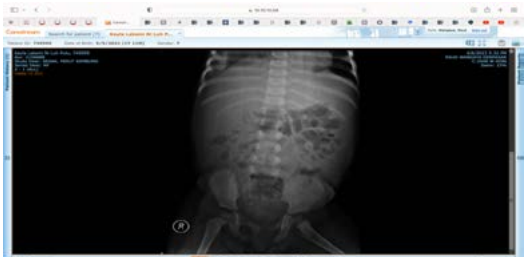

Figure 1.2

Conclusion: Dengue haemorrhagic fever is an endemic disease in Indonesia and over the years the incidence rate of this Case is increasing and the mortality rate is also increasing in this Case, in some Cases with severe plasma leakage diuretic administration can be considered but further research is needed to assess the side effects of this therapy.

Keyword: Dengue haemorrhagic fever, ascites, pleura effusion, diuretic.

Endo 06

Correlation between Diabetes Burnout Scale with Glycosylated Hemoglobin Level In Type-1 Diabetes Mellitus

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Background : Mental health disorder is one of the complications found in children with type-1 diabetes mellitus. The complexity of management in type-1 DM can increase the risk of burnout in patients. Diabetes burnout belongs to the perception of tiredness and grievance in the management of diabetes, leading to low adherence and poor glycemic control. Glycosylated Hemoglobin (HbA1c) was used to determine glycemic control from diabetes.

Objective : This study aims to evaluate the relationship between Diabetes Burnout Scale (DBS) with HbA1c level in Type-1 Diabetes Mellitus.

Methodology : : A cross-sectional study, using the DBS questionnaire and HbA1c level at one time was carried out in June 2023, with a total 32 Type-1 Diabetes Mellitus participants aged between 10-18 years old. Analysis of data using Pearson and Spearman Correlation test in SPSS software program.

Results : Thirty-two children with type-1 diabetes mellitus, 14 boys (43.8%) and 18 girls (56.3%), median age of 14 years old, mean Body Mass Index (BMI) was 20.1, mean duration of diabetes was 65.03 months, and mean of HbA1c level was 9.92%. The relationship between three domain of Diabetes Burnout Scale (DBS) which were Exhaustion, Detachment, and Loss of control were 2.52 (P = 0.214), 2.53 (P=0.806), 2.29 (P=0.079) in correlation to HbA1c level respectively. The higher DBS score was found both in HbA1c good and poor level.

Conclusion : There is no correlation between scoring of DBS with HbA1c level. By measuring burnout, DBS can contribute to improving psychosocial care in individuals with diabetes.

Keyword **:** Detachment, Diabetes Mellitus, Diabetes Burnout Scale, Exhaustion, HbA1c

Endo 08

The Profile of Pediatric Patients With Short Stature due to Growth Hormone Deficiency At The Cipto Mangunkusumo Hospital In The National Health Insurance Era

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Background: Growth hormone deficiency (GHD) in children is currently a medical condition not covered by the National Health Insurance. Establishing the diagnosis and providing the necessary therapy for it requires optimal coordination due to its high cost

Methodology: The records of patients between July 2022 to July, 2023 at Cipto Mangunkusumo that had been diagnosed with short stature due to GHD

Result: Out of the 111 pediatric patients with short stature, 29 were suspected of having GHD. And only 7 patients have been confirmed through series of test which was not possible due to financial problem. There were 2 patients due to medulloblastoma and craniopharyngioma, and was not offered GH. 5 patients (3 males) are currently receiving therapy. with an average age of 8.8 years, body height of 113.2 cm, and peak GH stimulation test result of 3.8 ng/ml. Cranial MRI results were within normal limits, mean (median) IGF-1 level was 93.8 ng/ml, vitamin D level was 23.4 ng/ml, FT4 was 1.09 ng/dl, TSH was 2.65 mIU/L, and growth hormone at a dosage of 0.025 mg/kgBW/day was administered. The stages of examination and therapy require the approval process of management, which involves the physician in charge, the Case manager, and the patient's family.

Conclusion: Establishing a diagnosis and mapping out therapy in children with GHD in the National Health Insurance era are challenging matters. However, this can be navigated through proper coordination involving the PIC, the Case manager, and the patient's family.

Keywords: *short stature, children with growth hormone deficiency, national health insurance*

Endo 18

Thyroid Cancer in Children : Outcome of Patients in Cipto Mangunkusumo Hospital

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Background
Thyroid gland malignancies are rare in pediatric patients (0.7% of tumors), however they constitute the most common endocrine malignancy. Papillary thyroid carcinoma (PTC) is the most common type of thyroid malignancy. Mortality rate of thyroid malignancy in children is lower than adults but advanced stage of disease at presentation and higher recurrence rates.

Objective
To report characteristic and outcome of pediatric thyroid cancer patients in Cipto Mangunkusumo Hospital.

Results
During 2021-2023 there were ten thyroid Ca patients, all of them female with age range of 6-15 years when diagnosed and had *an asymptomatic neck mass* as chief complaint. Ultrasound showed multiple thyroid nodule appropriate to TIRADS 3-4 and multiple lymphadenopathy at diagnosis. No history of previous thyroid disease in all patients. Biopsy results showed thyroid papillary carcinoma in all patients. Six patients underwent total thyroidectomy after being diagnosed. Two patients underwent lobectomy and then continued thyroidectomy after relapse. One patient had a lobectomy and need follow-up plan due to recurrence. Four patients received radioactive iodine therapy with NaI-131 (30-100 mCi). One patient had mineralized bone disease complications and one patient had vocal fold paresis after total thyroidectomy. Two patients had lung metastasis in 2-3 years follow up. All patients are currently receiving levothyroxine and being monitored for relapse with periodic examination of thyroid ultrasound, thyroid function, thyroglobulin and whole body scans if needed.

Conclusion
Papillary thyroid carcinoma is the most frequent type of thyroid carcinoma among children and adolescents in Cipto Mangunkusumo Hospital with no mortality but high recurrence rate and some patients need radioactive iodine therapy after total thyroidectomy. Life long monitoring needed in pediatric thyroid patients due to high recurrence and metastasis possibility.

Keywords : thyroid cancer, papillary thyroid carcinoma

Endo 20

Case REPORT: NESIDIOBLASTOSIS

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Background
Congenital hyperinsulinism is the most common cause of persistent hypoketotic hypoglycaemia in neonates and is associated with a risk of permanent brain damage. Incidence is 1/25.000 -1/50.000 live birth. Nesidioblastosis is one of etiology of congenital hyperinsulinism. Nesidioblastosis is a diffuse ducto-endocrine β cell proliferative disorder of the pancreas in a patient with a β cell tumour.

Case
Two days old neonate was referred to emergency unit by recurrent seizures in 2 minutes. Baby was born spontaneously with birth weight 4100 gram, birth length 51 cm, and appropriate gestational age. On physical examination baby was lethargic with saturation 85%. Patient had persistent hypoglycaemia despite appropriate management. Patient had treatment by giving infusion liquids with GIR 12. Laboratory results showed CRP < 0.03 (<=0.5) mg/dL, ketone 0.1 (0-0.6) mmol/L, lactate 3.9 (0.5-2.2) mmol/L, insulin 85.1 UIU/mL, cortisol 15.9 (3.7-19.4) ug/dL, growth hormone 17.9 (1.07 – 17.6) ng/ml. USG abdomen showed normal structure. On MRI abdomen showed suspected mass was on the caput of pancreas. Patient was treated with octreotide and nifedipine, unfortunately was unsuccessful. Then, patient was treated with total pancreatectomy. Pathology result showed nesidioblastosis. Patient was discharge with good condition.

Conclusion
Nesidioblastosis can cause congenital hyperinsulinism and persistent hypoglycemia in neonates. It is essential to make a prompt diagnosis and institute immediate management to prevent complications.
Keywords: congenital hyperinsulinism, nesidioblastosis, medications, pancreatectomy

Endo 21

Precocious Puberty Treatment During the Past 30 Years : A Bibliometric Study

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Background: Precocious puberty defined as puberty that starts before age 8 in girls and 9 in boys and divided into central and peripheral precocious puberty. Treatment of precocious puberty divided into conservative, drug treatment and surgical resection depends on the etiology. This study is to provide scientific output of precocious puberty treatment through bibliometric analyses, to identify the effective studies and to reveal the current trend topic.
Methodology: All publication about precocious puberty treatment published between 1993 and 2023 in Scopus index were downloaded and analyzed using bibliometric methode. Bibliometric web visualization was done using VOSviewer.
Results: There were 2.303 publications between 1993 and 2023, the top 3 productive country were United States (547), Italy (215) and China (170) were the effective country, the top productive author about precocious puberty treatment were Eugster, E.A (36), Carel, J.C (31), Bertelloni, S (23) and Partsch, C.J (23), and the most active affiliation institution were Riley Hospital for Children (47), Inserm (44), and Universite Paris Cite (42). With Current trend key word used in recent years were precocious puberty, central precocious puberty, puberty, and hypotalamic hamartoma.

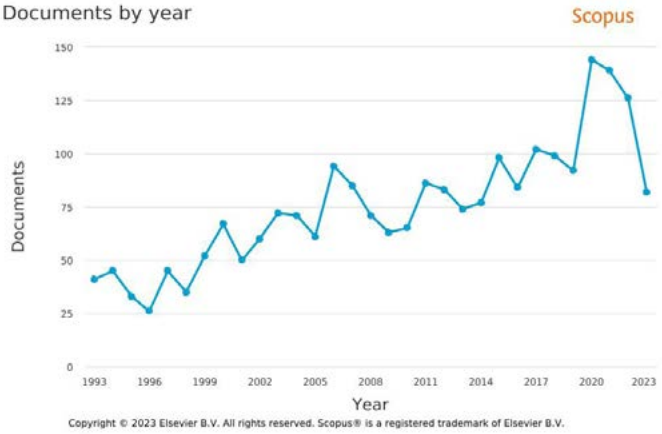

Figure 1. Number of Publication by Year on Scopus

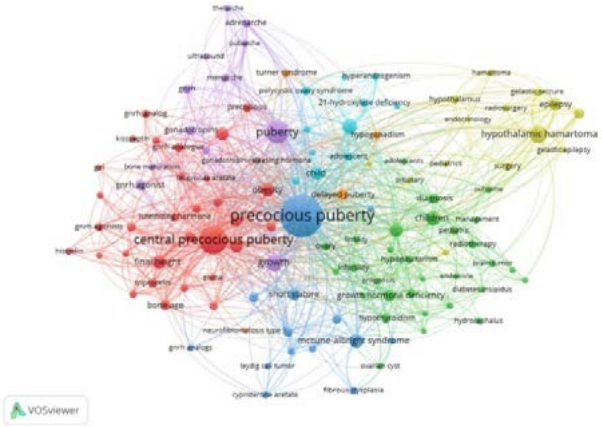

Figure 2. The trend visualization keyword of publication with VOSViewer

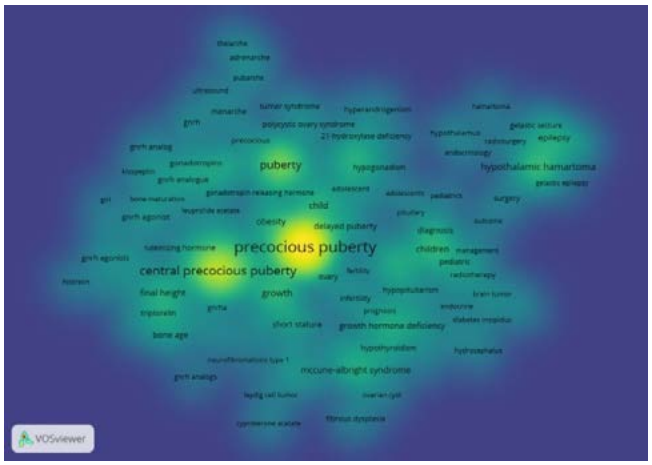

Figure 3. Density Key word Analysis VOSViewer

Conclusion: This study provided a systematical analysis of precocious puberty treatment and could be beneficial guide for clinical and scientists.
Keywords: Bibliometric Analysis, Precocious Puberty, Precocious Puberty Treatment.

Endo 23

Clinical Characteristics and Mortality Risk Factors of Hospitalized Pediatric Diabetic Ketoacidosis in Dr. Moewardi Hospital

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Background: Diabetic ketoacidosis is a serious complication of diabetes which can lead to life-threatening condition and increases morbidity as well as mortality in diabetic children. This study describes the clinical characteristics and outcomes of pediatric diabetic ketoacidosis Cases in a tertiary hospital.

Methodology: A retrospective observational study was conducted in diabetic childrean treated in Dr. Moewardi Hospital between January 1st, 2021 and June 30th, 2023. All data were obtained from medical database which then extracted and compared with outcome of patients.

Results: Seventeen children confirmed diabetic ketoacidosis where included in the study, of this 52.9% are females and 70.6% aged over than 10 years old. Severe diabetic ketoacidosis accounted for 70.6% of Cases while mortality was found in 23.5% subjects. Shortness of breath (76.5%), fatigue (64.7%) and leukocytosis (58.8%) were the most common symptoms. Mortality were significantly related to over nutrition, length of stay, and decreased of consiousness (p= 0.045, p= 0.022, p= 0.002, respectively). Multivariate regression analysis obtained that nutritional status [adjusted OR = 36.00, 95% CI (1.71-757.79)] and length of stay [adjusted OR 16.50, 95% CI (1.09-250.180] were significant predictors for mortality.

Conclusion: Shortness of breath and fatigue are the most common symptoms of diabetic ketoacidosis. Mortality rate is higher in diabetic keoacidosis children with overnutrition.

Keywords: clinical characteristics, diabetic ketoacidosis, diabetes mellitus, mortality, children.

Endo 28

ABSTRACT
*FREE TRIIODOTHYRONIN*E (FT3) AMONG CRITICALLY ILL PEDIATRIC : CORRELATION WITH DISEASE SEVERITY AND LENGTH OF STAY

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Background : During critically ill, thyroid function disorders frequently manifest as reduced levels of FT3. FT3 has a vital role in metabolic control during critical illness. The decrease is directly related to the severity of the disease, which can be assessed by the PELOD-2 score and indirectly related to the length of stay.

Objective : This study aim to evaluate free FT3 among critically ill pediatric and it's correlation with disease severity and length of stay

Methods : Cross-sectional study was carried out between June and September 2022 in PICU of Dr M Djamil Hospital. Inclusion criteria were accepted informed consent and well-nourished. Exclusion criteria were history of thyroid disease, consuming exogenous/thyroid hormone/anti-thyroid drugs, history of chronic disease and Down's syndrome. FT3 levels and PELOD-2 scores were measured within the first 48 hours of admission. Length of stay was taken from medical record data. Data were analyzed using one sample T-test and Spearman correlation test using the SPSS program.

Result : Thirty subjects were included in the study. The mortality rate was 30%. The median FT3 level was 1.5 pg/mL and was found low in most samples (86,6%). FT3 was found lower in non-survivor (1,62 pg/mL vs 2,05 pg/ml, $p<0,05$) and PELOD-2 score ≥ 7 group (1,54 pg/mL vs 2,07 pg/ml, $p<0,05$). There was a significant negative correlation ($p = 0,001$) between FT3 levels and PELOD-2 scores with moderate value ($r = -0.567$) and no significant correlation with length of stay.

Conclusion : Most of the samples found low levels of FT3. The lower FT3 level measured, the higher PELOD-2 score found in critically ill children.

Keyword : FT3, PELOD-2 score, length of stay, critically ill pediatric

Endo 44

Vitamin D Deficiency in Association with Hypocalcemia in Preterm Infants

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Background/Objective: Vitamin D deficiency results in various problems such as rickets, osteomalacia, heart problems, cancer, diabetes and autoimmune diseases. Hypocalcemia is a common disorder among preterm infants, it is also a sign of vitamin D deficiency. Thus we conducted a study to determine the association between vitamin D deficiency and hypocalcemia in preterm infants.

Methodology: A cross-sectional study was performed in preterm infants born in Dr. Moewardi Hospital, Surakarta from December 2022 to May 2023. Venous blood was collected within the first 24 hours to assess vitamin D and calcium levels. Chi square analysis and logistic regression were used to assess the association of gestational age, sex, birth weight, and vitamin D with the incidence of hypocalcemia. The significance was set at $p<0.05$.

Results: There were 40 preterm newborns, comprising 37.5% late preterm, 20% moderate preterm, and 42.5% very preterm. Most subjects were female (52.5%). Low birth weight, very low birth weight, and extremely low birth weight occurred in 55%, 27.5%, and 17.5%, respectively. Vitamin D insufficiency and vitamin D deficiency were observed in 20% and 80% subjects respectively. Most Subjects had hypocalcemia (62.5%). Chi square analysis obtained significant association between vitamin D deficiency and hypocalcemia ($p=0.029$).

Conclusion: There is a significant association between vitamin D deficiency and the incidence of hypocalcemia in preterm infants.

Keyword: Vitamin D, Hypocalcemia, preterm infants

Endo 03

4 Years Monitoring: Very Severe Hypertriglyceridemia in Children with Diabetic Ketoacidosis

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Objective: Hypertriglyceridemia can be observed in up to 50% of patients with diabetic ketoacidosis (DKA), but a condition for DKA with very severe hypertriglyceridemia is uncommon. The Objective of this Case report is to present four years monitoring very severe hypertriglyceridemia in children with diabetic ketoacidosis.

Case: A 9-year-old girl referred by district hospital with a decreased in consciousness for 16 hours before the admission. She has suffer from type I diabetes mellitus within 9 months. The patient came with GCS 7 and kussmaul breathing. Random blood glucose was 255 mg/dL. Glycosuria and ketone urine tests were positive. Triglyceride level was 16.200 mg/dL. She had diagnosed with DKA and very severe hypertriglyceridemia due to DKA. We treat her according to DKA guidelines and gave fibrates and omega oil. The level of triglyceride decreased gradually with hydration and insulin. Normal level of triglyceride achieved in day 21st. After 4th year of follow-up, the triglyceride level was 140 mg/dL even without the use of special treatment. The child has good metabolic control with normal growth and development. Nowadays she always got basal bolus insulin, diet regularly, exercise and self monitoring blood sugar. The HbA1C was 9,2% random blood sugar was 115-215 mg/dL. Menstrual periode was normal.

Conclusion: Very severe hypertriglyceridemia could happen in DKA, it has good prognosis as long as the patient has good blood glucose control.

Keyword : Diabetic ketoacidosis, Hypertriglyceridemia, Type 1 diabetes mellitus

Endo 14

Addison disease, Spondylitis TB, and Lumbar Compression Fracture caused by Tuberculosis Infection

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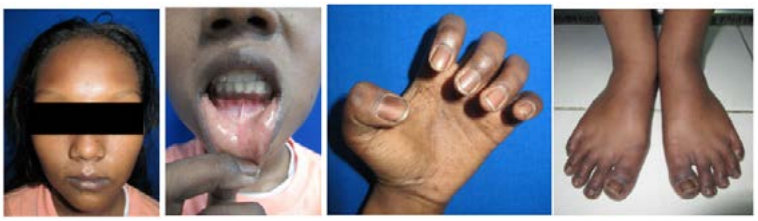
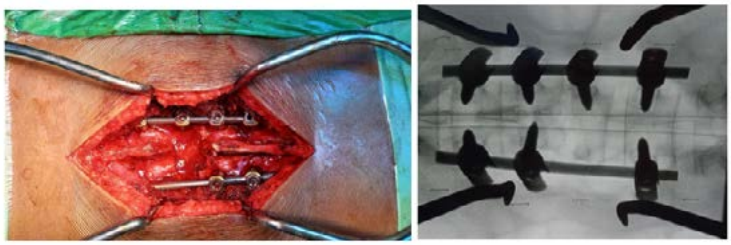
Andyan Yugatama, Eka Agustia Rini, Finny Fitry Yani, Roni Eka Sahputra

Objective: Addison disease (AD) or Primary adrenal insufficiency (PAI) is a potentially fatal condition caused by an imbalance in adrenal's glucocorticoid and mineralocorticoid hormone secretion. Tuberculosis (TB) can affect the spine as well as the adrenal gland destruction. Adrenal TB in children is extremely rare, and the patient requires a multidisciplinary approach to be managed.

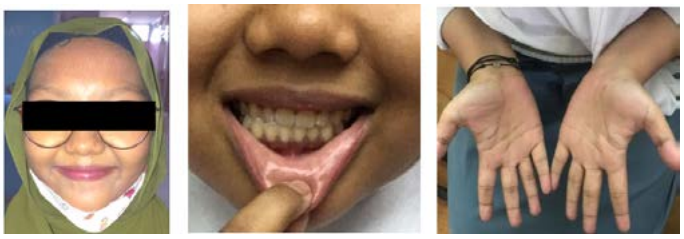
Case : Since 7 months, our patient has had "Muddy" hyperpigmentation in the skin and mucosa, which appears as a brownish discoloration of the gums, lips, inner cheeks, and skin folds. She frequently developed ill-defined fatigue, nausea, vomiting, abdominal pain, and hip and thigh joint pain.



She was later diagnosed with Spondylitis TB and underwent spinal surgery for debridement with correction of lumbar compression fracture with pedicle screws installed at the lumbal vertebrae.



Cortisol levels were low in the morning and at night. Autoantibodies 21-Hydroxylase were negative. TB treatment was completed and genisone was used as the primary therapy. Her hyperpigmentation has subsided, and she can resume her normal daily activities.



Conclusion: Adrenal autoantibodies were negative, implying that Adrenal TB could be the cause of this patient's PAI. There was still a scarcity of literature on how long the steroid would be administered until the patient recovered completely. We're still trying to monitor on the adrenal function because the patient still needs routine genisone.

Keywords : Adrenal TB, Primary adrenal insufficiency, Addison disease, Spondylitis TB, Lumbal compression fracture

Endo 25

Relationship Between Serum Ferritin Level and Growth Velocity of Pediatric Transfusion Dependent Thalassemia

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Background: Growth impairment is commonly seen in children with thalassemia despite regular blood transfusions. The cause of this condition was chronic hypoxia, iron overload, endocrinopathy, inadequate transfusion, and iron chelation. The aim of the study is to analyze correlation between serum ferritin level and growth velocity of pediatric transfusion dependent thalassemia (TDTs).

Methods: A retrospective study was performed to evaluate medical records of pediatric TDTs aged 2-18 years old at Dr. Soetomo General Hospital Surabaya from January 2022 to January 2023.We evaluated growth velocity based on growth velocity chart. Statistics used were Spearman and MannWhitney U test(α=0.05).

Results: Thirty-eight children,18(48%) female and 20(52%) male joined the study. The median age was 10.6 years whether mean serum ferritin level was 2919.2(SD±2029.3) nmol/ml with mean duration of illnes 7.13(SD±3.23) years and age of onset 3.34(SD±2.29) years. Mean heigth velocity 2.55(SD±1.65)cm/year. Among 73.6% of subjects had growth velocity less than P25. Mean serum ferritin level of the thalassemics with a height < P25 was higher compared to those with a height >P25 (p=0.076; r=0.648). The relationship between ferritin levels with chronological age and growth velocity were (p=0.034; r=0.84) (p=0.076; r=0.65) respectively.

Conclusion: Serum ferritin level of the thalassemics with a height (<P25) was higher compared to those with a height (>P25).

Keywords: Pediatric thalassemia, Serum ferritin, Growth velocity.

Endo 26

Excel Electronic Anthropometric Calculator for Pediatric Clinical Practice

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Backgrounds: Parameterization of pediatric growth charts allows precise quantitation of growth metrics would be cumbersome and time-consuming with conventional paper charts. The Objective of this study is to develop an electronic anthropometric calculator for pediatric clinical practice, utilizing the lambda-mu-sigma (LMS) parameterization alongside familiar Microsoft Excel formulas.

Methods: Utilizing the Excel program, we devised the computation adhering to the Regulation of the Minister of Health of the Republic of Indonesia (2020) regarding anthropometry. The reference were sourced from the World Health Organization Growth reference data for ages 0-60 months and ages 5–19 years children. The Excel sheet records essential data such as date of birth, gender, weight, height, and head circumference. This program will calculate and obtain precise and dependable anthropometric interpretations based on the inputted data.

Results: The program underwent a rigorous nine-month testing phase, involving over 2,000 data points and numerous updates to ensure its calculation reliability, as verified against the standard Growth Chart. As a result, the program reduces the time for obtaining anthropometric interpretation and screening short statue, stunting and obese in clinical settings.

Conclusion: The Excel program for LMS-based anthropometric calculation is user-friendly and can be used offline, requiring no internet connection. The outcome can be easily printed on paper or a label sticker, facilitating documentation in medical records or patient's books to monitor and trace progres during subsequent visits. This program provides rapid and precise calculations to assess children's anthropometry which can be easily understood by both parents and health staff.

Keywords: Anthropometric calculator, excel software, growth charts, short statue, stunting.

Endo 27

Concurrent Type-1 Diabetes Mellitus and Primary Brain Tumor in a Pediatric Patient: A Rare Case Report

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Background : Type-1 diabetes mellitus is a chronic autoimmune disease characterised by insulin deficiency which resulting in hyperglycemia. Etiology of this disease varying from genetic to environment. Recent studies have suggested that hyperglycemia may lead to increase tumor growth.

Case : 9-year-old boy was admitted to the ER with a focal seizure that last for about 5 minutes. Complaint were accompanied by headache 3 months prior to admission, followed by polyuria, polydipsia, gradual vision loss on both eyes, right-sided hemiparesis and weight loss for approximately 5 Kgs within 2 months. On neurologic examinations physiological reflexes slightly increased with present of pathological reflexes. Laboratory on admission showed sodium 129 and blood glucose 754 mg/dl. urine analysis revealed glucose +4 with no keton found. Urine output monitored for 24 hours resulting 2.2L. Further laboratory examination showed HbA1C 18% and C-Peptide 0.7. Head CT-Scan revealed hydrocephalus and focal cortical gyral enhancement on left temporoparietal with suspicion of neoplasm. 0.25 U/KgBW of rapid acting insulin per 6 hours was given to control glucose serum levels to provide patient for immediate ventriculoperitoneal (VP) shunt procedure.

Conclusion: Type-1 diabetes mellitus diagnosis in this patient is based on clinical symptoms and laboratory examinations. There are several journals that reveal the correlation between hyperglycemia with involvement of tumor growth, one of them is brain tumor. Hyperglycemia provide a high glucose fuel source for cancer cells supporting rapid proliferation and promoting antiapoptosis which increasing both cancer risk and mortality.

Keywords: Primary Brain Tumor, Type-1 Diabetes Mellitus

Endo 34

The Relationship Between Age, Sex, And HBA1C Levels with The Quality of Life of Pediatric Patients with Type 1 Diabetes Mellitus at Hasan Sadikin General Hospital Bandung in April-June 2023

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Background: Children with type 1 diabetes and their families often feel sadness, disappointment, stress, depression, and anxiety so that an assessment of the quality of life of children with type 1 diabetes can determine actions that can improve their quality of life. Until now, there has been no research that discusses the quality of life of children with type 1 DM at Hasan Sadikin General Hospital Bandung

Methodology: This study used medical record analysis and questionnaires using the PedsQL on pediatric patients and families of type 1 diabetes to see the relationship between age, sex, and HbA1c levels with the quality of life of children with type 1 diabetes mellitus then analyzed using descriptive analysis and multiple linear regression.

Results: From 39 total samples that met the exclusion and inclusion criteria, majority of children aged 12-18 years, female, the average HbA1c level of the study subjects was 7.23, the quality of life function of children with type 1 diabetes mellitus was good, especially in physical aspects and emotional aspects. There was an association between age, sex, and HbA1c levels on the overall quality of life was a significant (p = 0,002)

Conclusion: The quality of life of children with type 1 diabetes mellitus in this study less than optimal, especially in the physical and emotional aspects. There was a relations between age, sex, and HbA1c levels with the quality of life of children, especially in physical function

Keywords: type 1 diabetes mellitus, HbA1c, PedsQL, quality of life, Pediatric

Endo 45

Correlation Between Depression, Anxiety, and Stress Scale with Glycosylated Hemoglobin Level In Type-1 Diabetes Mellitus

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Background : Management of Type-1 Diabetes Mellitus requires continuous insulin therapy for a long time. Individuals with diabetes may have concurrent mental health disorders and are shown with poorer disease outcomes. Glycosylated Hemoglobin (HbA1c) is an indicator of long term glycemic control.

Objective : This study aims to evaluate the correlation between Depression, Anxiety, and Stress Scale (DASS) with HbA1c level in Type-1 Diabetes Mellitus.

Method : The cross-sectional study was carried out in June 2023, with 32 Type-1 Diabetes Mellitus participants aged between 10-18 years old. The validated DASS-21 questionnaire was used as a screening tool for the symptom of DAS. The relationship between the scoring of DASS and HbA1c level were analysed using Pearson and Spearman Correlation test in SPSS software program.

Result : Thirty-two children with type-1 diabetes mellitus, 14 boys (43.8%) and 18 girls (56.3%), median age of 14 years old, mean Body Mass Index (BMI) was 20.1, mean duration of diabetes was 65.03 months, and mean of HbA1c level was 9.92%. The prevalence of Depression, Anxiety, Stress was 12.5%, 40.6%, 28.1%, respectively. Mean data of Depression, Anxiety, and Stress score was 0.53 (P=0.827), 0.90 (P=0.370), and 1.65 (P=0.60) respectively in relation to HbA1c level. The higher DASS-21 score was found both in HbA1c good and poor level.

Conclusion : There is no correlation between DASS with HbA1c level in Type-1 Diabetes Mellitus. Still, the screening of mental state disorder regarding diabetes should be performed in order to increase the outcome from management of diabetes.

Keyword **:** Anxiety, Depression, Diabetes Mellitus, HbA1c, Stress.

Endo 02

Precocious Puberty Triggered by the COVID-19 Pandemic: A Systematic Review and Meta Analysis

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Background: A surge of early puberty Cases and faster puberty progression was noticed in the COVID-19 pandemic period. A drastic lifestyle disruption due to global quarantine has been hypothesized as the cause of the phenomenon. In this systematic review and meta-analysis we are aiming to evaluate the impact of the COVID-19 pandemic on the onset of puberty and progression of precocious puberty.

Methodology: We systematically searched four databases (PubMed, SCOPUS, ProQuest, EBSCOhost) from January 2020 to July 2023. Studies were required to be English and longitudinal; measuring outcomes at least at two time periods from before, during and/or after the pandemic. The risk of bias was assessed using modified Newcastle-Ottawa Scale and statistical analysis was performed with RevMan 5.4.1

Result: A total of 14 papers which include 1804 subjects were systematically reviewed in this study. The mean age of CPP diagnosis was significantly decreased in the pandemic period with mean difference of -0.10 years [95%CI: -0,19; -0.01, p= 0.03, I^2=54%] as compared with the pre-pandemic period. However, there were no significant differences in BA-CA and pubertal progression of children in the pandemic period as the, std. Mean difference was -0.04 [95%CI: -0.24; 0.16, I^2=0.68] and -0.26 [95%CI: -0.81; 0.30, I^2: 65%] respectively.

Conclusion: Overall, the pandemic had decreased the age onset of CPP diagnosis. Environmental factors such as social isolation through the quarantine law enforcement, decreased outdoor time and increased mental stress were hypothesized to be important for earlier puberty, yet pathological elucidation of the phenomena has yet to be defined.

Keywords: Precocious Puberty, COVID-19, Pandemic.

Endo 13

Delayed in Diagnosis and Treatment of Congenital Hypothyroidism at RSUP Dr.M.Djamil Padang and the Importance of Congenital Hypothyroid Screening

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Background
Delayed in diagnosis and treatment of congenital hypothyroidism remains a serious problem. If delayed in treated, growth retardation and mental retardation will happens

Case
A 10 years old girl, came to the outpatient on April 2019 with complaints that the development like a 9 months old. She has feeding problem, constipation, growth and developmental retardation. She looks short, unable to sit, stand or walk alone. The patient appears shy, introvert, melancholy and uncommunicative. Body weight was 12 kg and height is 86 cm, myxedema, dull face, still baby teeth with carries, dry and rough skin, unpalpable of thyroid. TSH 474, FT4 < 1pmol/L. Bone age:Retarded girl according to newborn. Thyroid ultrasound: thyroid agenesis.IQ score under 20. Score of development screening with PSC was 26. The Diagnosis as congenital hypothyroidism , short stature, and GDD. After 2 years of treatment, the patient was able to walk with a limp. Talking is still unclear. Defecation is normal, psychic contact is good. Weight 26 kg and height 120 cm. Bone age according to a 13 years 6 months girl. IQ score Increased to 30. PSC score improved to 11

Conclusion
Delayed in the diagnosis and treatment of congenital hypothyroidism in early life will result in growth and mental retardation. Monitoring of growth, development, FT4 and TSH is necessary for monitoring of treatment. Neonatal congenital hypothyroid screening can prevent delays in diagnosis and treatment

Keywords: birth weight, exclusive breastfeeding, gestational age, nutritional status, pediatric

Endo 33

Antithyroid Arthritis Syndrome in A Child with Hyperthyroid Grave's Disease: A Case Report

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Background: Antithyroid medications like methimazole and propylthiouracil (PTU) are commonly used to treat hyperthyroidism. The most common adverse effects are skin eruptions and, more seriously, agranulocytosis and acute liver toxicity. One of the rare complications of this medication is antithyroid arthritis syndrome. We report this Case to increase clinician awareness about this debilitating and life-threatening adverse effect.

Case: A 10-year-old girl came to Mohammad Hoesin Hospital with painful multiple joints after two weeks of methimazole given for her Grave's Disease. She described sharp, constant pain and stiffness in her shoulders and ankles. There was also a rash on her chest that spread to her neck. Laboratory findings included high hsCRP with normal C3, C4, non-reactive ASTO, negative ANCA, and Rheumatoid Factor. A Drug Lymphocyte Stimulation test was not performed. Radiologic examination showed synovial fluid accumulation on the Genu X-Ray. There were no fever or other symptoms that suggested infective arthritis. Methimazole was then switched to PTU despite lower efficacy, and ibuprofen was administered. The complaint of joint pain decreased significantly within two weeks. One month follow-up showed significant clinical improvement with normal thyroid function. PTU was continued with liver function monitoring.

Conclusion: The antithyroid arthritis syndrome is a rare side effect of antithyroid medications. The non-specific laboratory findings and the variability in its severity make its diagnosis challenging. After the diagnosis is established, it is essential to discontinue the medication that induced the reaction. Optimal management requires a better understanding of the immunological process leading to antithyroid arthritis syndrome.

Keywords: Antithyroid arthritis syndrome, methimazole, propylthiouracil

Endo 47

Salivary Cortisol in Pediatric Acute Lymphoblastic Leukemia Receiving Chemotherapy Induction: A Systematic Review and Meta-Analysis

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Objective: Acute lymphoblastic leukemia (ALL) is the most common malignancy in children that accounts for 70-80% of all leukemias. Glucocorticoids are fundamental drugs and have important role in ALL treatment, but may cause suppression of hypothalamic-pituitary-adrenal (HPA) axis. Saliva sample is preferably, as it contains free soluble steroids and reflects approximately 10% of plasma concentrations. The aim of this study was to determine the suppression effect of corticosteroid based on cortisol levels in saliva of the children with ALL.

Methodology: A search strategy was developed using following terms: “cortisol”, "salivary cortisol", "leukemia", “acute lymphoblastic leukemia”, “ALL”, "pediatric", “children”. These were searched in databases: PubMed, Scopus, Cochrane, and Embase, for studies published last 10 years until June 2023.

Result: Seven studies were included in systematic review and two of them were eligible for meta-analysis. These two primary studies, involving total 68 participants, met the inclusion and exclusion criteria. The I2 value of the heterogeneity test was 87%. We used the randomized effect model in the meta-analysis. Based on the results, there was no significant difference in salivary cortisol levels of ALL patients before and after chemotherapy induction, with *p* value = 0.70; mean diff 0.07 (95% CI: 0.30-0.45).

Conclusion: Our findings suggest reduction of salivary cortisol levels after dexamethasone administration; but our meta-analysis demonstrated that the reduction was insufficient to inhibit and disrupt the HPA axis. The use of corticosteroid (dexamethasone) as part of chemotherapy for pediatric ALL is safe according to a predetermined regimen.

Keywords: acute lymphoblastic leukemia, corticosteroid, dexamethasone, pediatric, salivary cortisol

Endo 09

Recurrent Diabetic Ketoacidosis in Pediatric Patient with Diabetes Mellitus Type 1 at Limited Resources Settings

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Objective : Diabetic ketoacidosis (DKA) is a leading complication of type-1 diabetes in children, due to severe insulin deficiency and increased counterregulatory hormones. Data from IDAI in 2018, there were 1220 children with type 1 diabetes, diagnosed when already experiencing DKA, reaching up to 71% in 2017. Delayed diagnosis are due to health worker's low awareness about diabetes in children and the unspecific symptoms. Incidence of recurrent DKA is varied across the world due to the difference in the quality of health care and socioeconomic.

Case : An 11 year old girl, weighing 33 kg, with severe shortness of breath since morning, vomiting and felt weak for 6 days. Always feels hungry, thirsty, and peeing at night. Loss 15 kg in the last 10 month, blurred vision and numbness. DM type 1 was first diagnosed 9 months ago, got routine insulin medication, but hadn't been injecting it for a week. Physical examination showed moderately ill patient, pulse 130 x/i, respiratory rate 34 x/i kussmaul breathing pattern, dry lip mucose, sunken eyes. Leukocytes 12.600/mm, blood sugar 445 mg/dl, HbA1c 13,9%, glucosuria +3, ketonuria +3. Patient was diagnosed as moderately dehydrated DKA in type 1 DM. Management with controlled fluid administration, insulin, antibiotics, DM diet, changes in diet and lifestyle.

Conclusion : Adolescents with intestinal symptoms, dehydration but high urine production, need to be suspected as DKA. Thorough history, physical, and laboratory exam are needed. Non-adherence can cause recurrent DKA, hence close monitoring and strengthened diabetic education should be given, to lower morbidity and mortality.

Keywords: diabetic ketoacidosis, insulin, type 1 diabetes mellitus

Endo 11

The Relationship between Metabolic Control Status and Microalbuminuria in Pediatric Diabetes Mellitus Patients at Dr. M. Djamil General Hospital, Padang, Indonesia

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Background: Diabetes mellitus (DM) is a complex metabolic disorder that can cause many complications. HbA1c measurement can help monitor long-term serum glucose regulation. Microalbuminuria in DM patients is a risk factor for these complications. This study aimed to determine the relationship between metabolic control status and microalbuminuria in pediatric diabetes mellitus patients.

Methods: This study is an analytic observational study with a cross-sectional approach. A total of 34 children with DM aged 1-18 years. Sampling was carried out using the consecutive sampling method at the pediatric polyclinic of Dr. M. Djamil General Hospital, Padang, Indonesia, from November 2021- April 2022. Metabolic control status was assessed by measuring HbA1C levels and microalbuminuria by measuring the urine albumin creatinine ratio. Data analysis used the Chi-square test, with a p-value <0.05.

Results: The average respondent was 13.2 ± 3.3 years old with a duration of suffering from DM 2.5 ± 2 years. Most of the respondents were male (52.9%), suffered from type 1 DM (94.1%), had uncontrolled metabolic control status (82.3%), had a normal creatine albumin ratio (82.4%). The average HbA1c value is 11.9 ± 39 %. The median urine creatine albumin ratio was 7.98 (0-255.74) ug/mg. Microalbuminuria in uncontrolled metabolic control status was found in as much as 17.6%, whereas in controlled metabolic control status, no microalbuminuria was found. Statistically, there is no significant relationship (p>0.05).

Conclusion: There is no relationship between metabolic control status and microalbuminuria in pediatric diabetes mellitus patients at Dr. M. Djamil General Hospital, Padang, Indonesia.

Keyword: Metabolic Control Status, Microalbuminuria, Pediatric Diabetes Mellitus

Endo 16

The Correlation Between Serum Ferritin Level and Body Mass Index z score in Thalasemia Beta Mayor

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Background: The chronic condition of thalassemia disease and therapy that requires transfusions results in a buildup of iron in the organs of the body. There is a significant relationship between high serum ferritin levels in patients with beta-thalassemia major and nutritional status. This study investigated the relationship between ferritin levels and BMI z score of patients with beta thalassemia major.

Methodology: A cross-sectional study was conducted in subjects with thalassemia major visiting Dr Moewardi Hospital Surakarta from May to June 2023. Ferritin level was taken based on the mean ferritin level of three times measurement and BMI was measured with BMI z score WHO curve. Statistical analysis used Pearson's correlation test, and $P < 0.05$ was considered significant.

Results: There were 35 patients included in the study, comprising 12 males and 23 females. The Z-Score and ferritin level variables were normally distributed, with the age ranged from 4 to 17 years old. The correlation test between ferritin level and BMI z score obtained $r = -0.135$ ($p=0.433$).

Conclusion: There is no significant correlation between serum ferritin level and BMI z score in patients with beta thalassemia major at Dr Moewardi Hospital.

Keyword: Thalasemia, Serum Ferritin, z score.

Endo-2-01

Panhipopituitary Due to Pituitary Macroadenoma in Adolescent

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Background: Pituitary macroadenoma (PM) is an anterior pituitary tumor with a size of more than 10 mm. Patients may experience symptoms due to hormonal imbalance or mass suppression. The difficulty of recognizing the disease early makes it difficult to treat patients with this disease adequately.

Case: A 13-year-4-month-old girl came to the hospital with complaints of appearing restless, blindness, headache, and polyuria since 1 year before admission. She also had decreased consciousness and severe dehydration at the time of admission. She had delayed puberty. Laboratory examinations revealed recurrent hypernatremia, hypothyroid, hypocortisolism, hyperuricemia, elevated creatinine, increased blood osmolality, and decreased urine osmolality. MRI showed an extra-axial, broad-base solid mass in the Sella-region extending to the right-left para-sellar with 4,0x4,0x2,6 cm in size. She was diagnosed with an intracranial tumor due to suspected PM and diabetes insipidus. She was planned for a thirst test, but it could not be performed due to decreased consciousness. A vasopressin test could also not be performed as the regimen was not available. She was treated with hypernatremia dehydration correction, inotropic infusions, and hydrocortisone. She died after approximately 1 month of treatment due to unresolved dehydration-hypovolemic shock.

Conclusion: The diagnosis and treatment of PM is challenging. Hence, a multidisciplinary evaluation is fundamental in the follow-up and treatment of these patients. The patient experienced symptoms due to mass suppression and hormonal imbalance leading to hemodynamic and metabolic disturbances, thus worsening her overall prognosis.

Keywords: Panhipopituitary, Pituitary Macroadenoma

Endo-2-02

Hypocalcemia due to Suspected Fahr's Disease

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Background: Fahr's disease is a rare degenerative neurological disorder characterized by abnormal deposits of calcium in areas of the brain, most commonly inherited as an autosomal dominant and has a genetic locus on chromosome 14q48. Children with hypocalcemia can present with signs such as seizures, so hypocalcemia can be the first clue of this genetic disorder. The aim of this Case presentation is to report a Case of hypocalcemia due to suspected Fahr Disease on pediatric department in DR. M. Djamil Hospital.

Case: An 11 years old girl came our hospital with chief complaint recurrent general convulsion 9 days before admission. She had history of seizure without fever nine years ago but never been treated and so does her mother. On physical examination we found normal vital sign but showed truncal spasticity, cognitive impairment as her teacher complains her school achievement and also showing a childlike attitude. Laboratory result showed hypocalcemia, hypomagnesemia, insufficiency vitamin D and low parathyroid level. Brain CT-scan with contrast there are abnormal prominent calcifications in the bilateral of basal ganglia region. She was treated with antiseizure, oral magnesium, vitamin D also calcium correction peroral and intravenous.

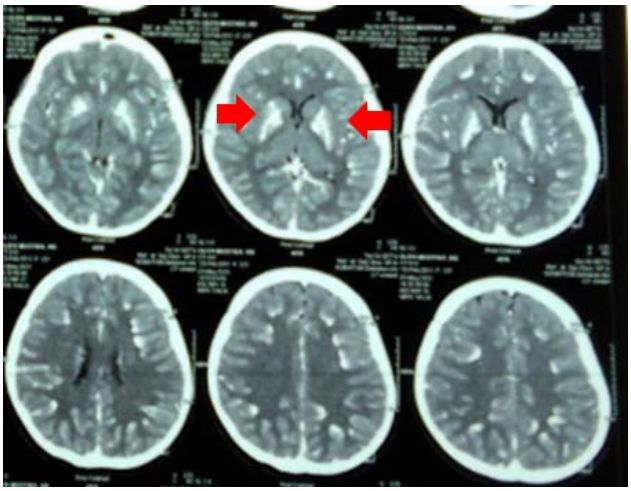

Fig: Brain CT-Scan with contrast (Red arrow: Basal ganglia)

Conclusion: Fahr's disease is a rare condition especially in the pediatric age group, this report shows clinical and laboratories manifestation appropriate to many scientific literature but needs further monitoring to prevent early neurodegenerative problem.

Keywords: fahr's disease, hypocalcemia, hypomagnesemia, parathyroid

Endo-2-03

The Suggested Prompt Management of Inborn Errors of Metabolism's Suspect in A Limited Resource Hospital : A Case Report

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Background
Inborn errors of metabolism are a heterogeneous group of disorders that may be inherited or may appear as the result of spontaneous mutations that occur 1 in 2.500 births with clinical presentation that can arise at any age that need a holistic and adequate treatment that often required advance diagnostic tools/procedure which aren't available in all medical health center.

Case
A-6-Months-Old Boy, 6 kg body weight, 68 cm body height was transferred from ER to PICU with severe respiratory failure and dehydration. He was admitted to ER a few hours before with sudden dyspnea and secondary complaints of fever, nausea, vomiting and hematochezia. He was born from normal delivery, have complete immunization history with no history of previous illness. The Four Score Come Scale as he entered PICU was E1M1B2R1. His blood pressure, heart rate, respiratory rate and temperature are 100/45 mmHg, 145x/minute, 30x/minute, 35ºC. Subcostal and intercostal retraction were found on physical examination. Laboratory findings showed severe metabolic acidosis, hemoglobin 8,5 g/dL, leucocyte 16.900/uL, hematocrite 28%, erythrocyte 3.200.000/uL, MCHC 31 g/dL, fasting blood sugar 428 mg/dL, natrium 135 meq/L, ureum 36 mg/dL, creatinin 0,3 mg/dL, GOT serum 408 u/L, GPT serum 521 u/L, reactive IgG, ferritin 2.000 ng/mL and lactate 2,1 mmol/L. The intubation procedure was performed in the ER. He was mechanically ventilated and treated in the PICU for 3 days before he had cardiopulmonary arrest.

Conclusion
Adequate resuscitation are the initial treatment for inborn errors of metabolism's despite the limited diagnostic tools/procedure resources. The monitoring in intensive care unit setting are required for most patients who are ill with suspected inborn errors of metabolism.

Keywords
Inborn Errors of Metabolism.

Endo-2-05

Association between Nutritional Status and Age at Menarche among Adolescent Girls in an Islamic Boarding School

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Background: Menarche, the first menstruation, is an important indicator of sexual maturation in women. Several studies have reported that the mean age at menarche decreased. This condition is supposed to be related to the improvement in nutritional status. This study aims to analyze the association between nutritional status with age at menarche of adolescents in an Islamic Boarding School.

METHODS: This analytical cross-sectional study was conducted at Islamic Boarding School in Sragen, involving adolescent girls aged 13-14 years from July- August 2023. Girls who had experienced menarche before August 2023 were included, while those with specific conditions that may affect anthropometric measurements were excluded. Data were obtained from self-administered questionnaires and anthropometric measurements. Nutritional status was classified in accordance with the WHO 2007 Growth reference BMI/Age Z-Score. One Way Anova with Bonferroni Post Hoc Test was used for data analysis.

Results: There were 93 of 97 subjects met the criteria; 59 were of normoweight, 22 were overweight, and 12 were obese based on nutritional status. The mean age at menarche among normoweight, overweight, and obese subjects was 11.62 (±1.07), 11.09 (±0.99), and 10.54 (±1.10) years ($p= 0.03$; 95% CI). Post hoc analysis confirmed that obese subjects had significantly younger age at menarche compared to overweight or obese ($p= 0.004$; 95% CI).

Conclusion: These results suggest an association between nutritional status and age at menarche. Adolescents with obesity tend to experience menarche at a younger age.

Keywords: Nutritional Status, Age at Menarche, Adolescent, Boarding School.

Endo 04

Coexistence of Congenital Hypothyroidism and Heart Disease: A Case Report on Delayed Diagnosis.

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Background : The prevalence of untreated congenital hypothyroidism has significantly decreased due to neonatal screening tests (NST) that utilize capillary thyroid stimulating hormone (TSH) levels. However, delayed diagnoses still accour, particularly in underserved areas. Congenital heart disease (CHD) frequently coexists with congenital hypothyroidism. A delay in diagnosing congenital hypothyroidism can lead to severe repercussions, including profound impacts on neurocognitive development, disruptions in typical growth patterns, and exacerbation of associated congenital heart defects. This report delves into the clinical trajectory of infants who, upon presentation to our center, had both CHD and a delayed diagnosis of congenital hypothyroidism.

Case: A 3 months and 18 days old girl was born by c-section at 37 weeks gestational age with 2.3 kg in weight and 45 cm in length. Atrial septal defect (ASD) and patent ductus arteriosus (PDA) was found on the echocardiography when she was born and had respiratory distress. At three months old, she had poor growth, gaining weight only 1.04 kg, cough frequently and difficulties in sucking. Physical examination showed oxygen saturation 82%, retractions, murmur, hypotonia, large fontanel and enlarged tongue were found. A 5 mm ASD with moderate tricuspid regurgitation (TR) was confirmed by echocardiography. Her TSH level was extremely high, FT4 level and blood glucose was low.

Conclusion : Delay diagnosis of congenital hypotiroidism will make exacerbation of CHD. Examination of TSH levels is very important after birth, especially for infants with CHD, which is a risk factor. Regular monitoring is essential to prevent delays in diagnosis.

Key Word: Congenital Hypotiroidism, Congenital Heart Disease, Atrial Septal Defect, TSH level, Delayed Diagnosis.

Endo 24

Cerebral Edema in Severe Diabetic Ketoacidosis: A Case Report

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Background: Cerebral edema (CE)-induced diabetic ketoacidosis (DKA) is associated with significant mortality, accounting for 50-90% of diabetes-related deaths in children. CE was found in more than 50% of children with DKA in neuroimaging investigations. Diabetic ketoacidosis, on the other hand, is one of the acute complications of type 1 diabetes mellitus (T1DM) that can lead to a life-threatening condition if not properly detected and treated.

Case: A 16-year-old girl was admitted to ER with loss of consciousness. She was reported to have an initial onset of difficult breathing, abdominal pain, vomiting, decreased appetite, and fever for 2 days. She had a history of T1DM and did not take insulin regularly. Glasgow Coma Scale (GCS) was E3V1M4 prior to admission. The laboratory tests revealed severe metabolic acidosis (pH 6,729; pCO2 9.6; HCO3 1.3), hyperglicaemia, hyponatremia and hyperkalemia. Urinalysis showed ketonuria of +4. She received 10 litre/minute of O2 NRM, 10 ml/kg of 0,9% NaCl in 1 hour continued with maintenance 142 ml/hour 0.9% NaCl with KCL 10mEq/kolf and 5 IU/hr of insulin. Her condition continued to deteriorate with GCS of E1V1M2, one episode of seizure then eventually passed away. She was suspected of having cerebral edema. However, a CT scan wasn't performed due to the patient's instability.

Conclusion: Diabetic Ketoacidosis and its complications are the leading cause of mortality in childhood type 1 diabetes mellitus. Therefore, proper knowledge in identifying and treating the condition can be useful for reducing the morbidity and mortality.

Keywords: Cerebral Edema, Diabetic Ketoacidosis, Type 1 Diabetes Mellitus.

Endo 31

A-5 years Old Girl with Peripheral Precocious Induced by Mixed Embryonal Carcinoma and Yolk Sac Tumor

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Background
Peripheral precocity is caused by excess secretion of sex hormones derived from ectopic gonadotropin production from a germ cell tumor as a rare condition.

Case
A-5th years old girl came to ER Saiful Anwar General Hospital with abdominal distended, clitoromegaly followed by enlargement of breasts, appearance of fine hair in armpit and on pubic area about a month ago. The patient also had brownish lesions on the face and brownish spots on the body. The Tanner level is III. Her height is 120 cm (>P95) and the bone age revealed accelerated girl. The CT abdomen concluded that solid-cystic mass with thick papillae and septa in the cavum pelvic to the abdomen. Laboratories found that there were normal LH and FSH, but increased levels of Estradiol (1073), NSE (118,5), and CA-125 (82,74). Within a week of admission, this patient performed total resection of the mass. The biopsy revealed mixed embryonal carcinoma and yolk sac tumor. Her clinical manifestations and estradiol level were improving after a month of total resection.

Conclusion
A prompt and accurate diagnosis is required in such Cases to ensure that comprehensive treatment can be followed up immediately and the severity can be prevented.

Keywords: ex Hormone, Peripheral Precocity, Early Diagnosis

Endo 41

Leuprolide Acetate for Menorrhagia Treatment in Children with Aplastic Anemia: A Case Report

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Objective: Menorrhagia in aplastic anemia with refractory thrombocytopenia can be challenging to treat. Herein we report the successful use of leuprolide acetate for menorrhagia in an adolescent with aplastic anemia that was unresponsive to estrogen treatment.

Case: A 14-year-old girl was diagnosed with aplastic anemia and had her first menstruation four months before admission. Her periods were long and irregular. Pubertal status was P3M3. Her hemoglobin was 2 g/dL, thrombocyte was 1000 10^3/µL, LH was 0.2 mIU/mL, FSH was 1.3 mIU/mL, and estradiol was 31 pg/mL. Internal genital ultrasound showed no abnormalities. The patient was hospitalized for one month and received cyclosporin, a transfusion of 20 units of PRC, and 50 units of platelets. Hormonal therapy with conjugated estrogen was given, but the bleeding remained active. The patient then got a single injection of 0.375 mg leuprolide acetate. No side effects were found, such as allergic reactions, headaches, or chest pain. The bleeding decreased and stopped after four weeks. The menstruation stopped after a routine injection of leuprolide acetate every month for three months. Furthermore, the patient was monitored for leuprolide acetate's long-term consequences, including osteoporosis.

Conclusion: Menorrhagia could be life-threatening in patients with thrombocytopenia due to aplastic anemia. Leuprolide acetate could be considered an optional treatment with minimal side effects with monitoring for osteoporosis.

Keywords: Leuprolide acetate, Anemia aplastic, GnRH antagonist, Uterine bleeding.

Endo 29

Neonatal Late-Onset Hypocalcemia due to Unrecognized Maternal Hyperparathyroidism, A Case Report

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Background:
Late-onset hypocalcemia in neonates caused by maternal hyperparathyroidism is a rare but potentially life-threatening condition. Excess maternal calcium crosses the placenta depresses fetal parathyroid function.

Case:
A term girl neonate, with unremarkable perinatal history presented with seizures at seven days of age. Patient had recurrent episodes of focal seizures without loss of *consciousness.* The patient was hospitalized due to unresolved seizures. There were no signs of fever, diarrhea, vomit, or hypoglycemia. Her sibling had a history of neonatal seizure caused by hypocalcemia. There were no neurogical deficits and sign of dysmorphic. Laboratory investigations revealed mild hypocalcemia (ionized calcium level: 2.89 mg/dL). The bone profile showed hypoalbuminemia, hypocalciuria, hyperphosphatemia, and hypophosphaturia. The mother had slightly elevated calcium levels during pregnancy. Parathyroid hormone assessments in mother was elevated (206 mg/L), while patient showed low levels (11 mg/L). The neonate received intravenous calcium correction for one week, thereafter received oral suplementation. Seizures resolved after three days of intravenous calcium correction. The mother was prescribed daily calcium and vitamin D oral supplements. Sustained normalization of calcium level in both mother and neonate occurs after 3 months of oral calcium supplementation.

Conclusion:
Maternal hyperparathyroidism is a potential cause of late-onset hypocalcemia in neonates. Early recognition and appropriate management of neonatal hypocalcemia is important to optimize management for improved maternal and neonatal health outcomes.

Keywords: Neonatal hypocalcemia, maternal hyperparathyroidism, seizure

Endo 36

Type 1 Diabetes Mellitus and Overweight in a Child : a Case Report

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Background : Type 1 diabetes mellitus (T1DM) is an autoimmune disease that originates when beta cells are destroyed by the immune system. The common symptoms of this elevated blood sugar are frequent urination, increased thirst, increased hunger, weight loss, and other serious complications. T1DM can typically be distinguished from type 2 by testing for the presence of autoantibodies and/or declining levels/absence of C-peptide. Generally in patients with T1DM experienced weight loss with poor nutritional status but in this Case the patient experiencing overweight which is a rare Case of T1DM.

Case : An 11 years old girl presented with chief complaints frequent urination, increased thirst, increased hunger in one month ago. From anthropometric examinations obtained overweight (according to the CDC curve), other physical examinations found no abnormalities. Laboratory results showed blood sugar at 304 mg/dL, HbA1c >14% and c-peptide decreased (0.17 ng/ml). Patients were treated with basal bolus insulin and nutritional regulation with calculation of carbohydrate : insulin ratio.

Conclusion : A Case of T1DM with overweight has been reported in a child with classical symptoms and laboratory examination that fulfilling the diagnostic criteria for T1DM. Patients was treated with insulin and nutritional regulation. Long term management and follow up need to prevent complications.

Keywords: Type 1 diabetes mellitus, overweight

Endo 43

Lack of Awareness in Early Diagnosis Turner Syndrome: a study in Central Java, Indonesia

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Center for Biomedical Research (CEBIOR), Faculty of Medicine, Diponegoro University, Semarang, Indonesia

Background: Turner Syndrome (TS) is caused by a complete or partial absence of X chromosome with varying degree of clinical presentation. Late identification in children with TS reduce the possibility of having a prompt intervention earlier. In Indonesia, data regarding TS in pediatric still limited. This study aimed to evaluate age of diagnosis and the clinical features in TS.

Methodology: In this retrospective study, we included pediatric patients with TS which confirmed by karyotyping from medical record in Dr. Kariadi Hospital, Semarang, from August 2010 – June 2023. We collected the data of age at diagnosis, presenting clinical features, growth parameters, phenotypic features reason for karyotype analysis, karyotype results, laboratory examination, and imaging.

Results: We included 26 patients from aged 0-18 years. The majority of patients had karyotype of 45,X (61,5%), mosaic (11.4%) and others. Most of patients (53%) were diagnosed during adolescence period (11-18 years). The most common features lead to diagnosis were dysmorphic (57,1%) in infants; short stature (45,5%) in childhood, pubertal delay and or primary amenorrhea (100%) in adolescents. Only 19% of Cases received growth hormone therapy, while 44% Cases received pubertal induction. Seven patients (26,9%) were found has congenital kidney malformations and 2 patients (7.69%) with congenital heart disease.

Conclusion: Pubertal delayed is the most chief complaint that bring patients to physicians, which considered very late. Increasing awareness of parents and health professionals about girls with short stature in early age are crucial to prevent the late diagnosis, to optimize the management dam to get better outcomes.

Keywords : Turner syndrome, clinical features, diagnosis.

Endo 32

A Case of 17 Years Old Female Patient with MODY: How to Manage and Diagnosis in Resources-Limited Setting

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Syiah Kuala University, Jember University, Brawijaya University, Abulyatama University, Aceh, Indonesia

Background: Maturity-onset diabetes of the young **(**MODY) is a monogenic diabetes which result from gene mutations and autosomal dominant. Monogenic diabetes neonatal diabetes, maternally inherited diabetes with genetic syndromes and deafness, but the most common form of monogenic diabetes is MODY and neonatal diabetes. Molecular genetic testing is the gold standard to diagnose MODY. This could be a challenge in a resources-limited settting due to the absence of genetic testing kits.

Case: A 17-year-old girl is brought to the hospital's emergency with complaints of weakness, dizziness accompanied by nausea, and vomiting more than 5 times since 2 days before admission, worsening within the past 1 day. She had a similar complaint 2 months ago. The patient was diagnosed with diabetes mellitus three years ago during a medical check-up, with a blood sugar level of 316 mg/dL. During the physical examination, the random blood sugar level is 292 mg/dL, high density lipoprotein of 50 mg/dL, and HbA1C is 7.4%. Based on these findings, the pediatric specialist diagnoses the patient with MODY and vomiting.

Conclusion: Patients with MODY are often misdiagnosed, especially in areas with limited access to genetic testing. Most Cases of MODY are misdiagnosed as type 1 or type 2 diabetes. The correct diagnosis of MODY is important to determine the right treatment and an early diagnosis and transition of treatment can help improve prognosis. However, for places with limited access to supporting examinations, it is expected to carry out optimal examinations and anamnesis.

Keyword: *MODY, Hba1c, diabetes*

Endo 35

Quality of Life in Children with Type I Diabetes Mellitus in RSUP Prof. dr. R. D. Kandou, Manado, North Sulawesi

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Background
Type 1 diabetes mellitus (T1DM) is one of the most common chronic diseases during childhood and adolescence. It threatens the health and endangers life with consequences for the physical and emotional development of the child and adolescent. Our study aimed at determining the health-related quality-of-life in children and adolescents with T1DM.

Methods
The study was conducted in the Child Endocrinology Unit of Prof. dr. R. D. Kandou General Hospital Manado, North Sulawesi, Indonesia. Totally 37 children, 1-18 years of age with T1DM and their parents were recruited. HbA1c measurements were obtained from the records of the endocrinology clinicare. The PedsQL was used to measure quality of life of the children and adolescents.

Results: From 37 patients with T1DM, regular control in hospital is 25 of 37 patients, there were 12 boys (48%) and 13 girls (52%). According to this study, both of parent's educational status were senior high school. Total mean of HbA1c was 9.6% and duration of treatment was 30 months. From five domains, the mean (SD) was 69.37 for clinical diabetes symptoms, 55 for treatment barriers, 58 for treatment adherence, 40 for emotional functional symptoms, and 69 for communication.

Conclusion: HRQoL of children and adolescents with T1DM was consistently poor. Parents consistently reported poor QoL scores than their children. We recommend that more support should be provided for the care of children with diabetes in Manado.

Keywords: quality of life, children, type I diabetic mellitus

Endo 37

Type 2 Diabetes Melitus and Overweight In a Child : a Case Report

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Background : Type 2 Diabetes Mellitus (T2DM) or commonly known as non-insulin dependent diabetes mellitus (NIDDM) is a hyperglycemic disease due to cell insensitivity towards insulin. The insulin level might be slightly decreased or in a normal range. People with obesity has 4 times more likely to develop T2DM compared to a person with normal nutritional status. The of overweight and obesity among children has increased dramatically in recent decades. Being overweight in early childhood increases risk for later obesity. Obesity-related health risks have been documented, including metabolic syndrome. There is also increasing incidence of type 2 diabetes (T2DM). adequate therapy and preventing acute or even chronic complications are the main management of T2DM patients. Lifestyle modifications including diet recommendation and physical activity should be commenced.

Case : An 10 years Old Male presented with Chief complaint frequent urination, increased thirst, increased hunger in one month ago. From anthropometric examinations obtained overweight (according to the CDC curve), other physical examinations found no abnormalities, Laboratory results showed blood sugar at 335 mg/dL, HbA1c >14% and c-peptide normal (1,05 ng/ml). Patients were treated with basal bolus insulin, metformin and nutritional regulation with calculation of carbohydrate : insulin ratio.

Conclusion : This paper reported a Case of a child T2DM with overweight. Good metabolic control was aimed by means of observation and proper intervention based on the evidence, thus the patient could still grow and develop based on her genetic potential despite long term treatment and complications could be evaded.

Keywords: Type 2 diabetes mellitus, Overweight.

Endo 46

Correlation of Vitamin D and Nutritional Status in Pediatric Systemic lupus Erythematosus

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BACGROUND:The link between vitamin D and nutritional status in pediatric systemic lupus erythematosus (SLE) is complicated and multifaceted. This study aims to see if there is a link between vitamin D and nutritional status in children with systemic lupus erythematosus

METHODE: This study design was cross-sectional to determine factors influencing children with SLE. The study was conducted at Saiful Anwar Hospital in Malang from January 1, 2021, to June 30, 2022. Statistical analysis was performed using the Shapiro-Wilk test for normality and Pearson correlation with SPSS 25 statistical analysis software.

RESULT: : All samples (32 children) were female, with a mean age of 14.1 ± 1.5 years. The mean vitamin D level was 18.32 ± 2.15 ng/mL, mean body mass index (BMI) was 19.51 ± 1.49 kg/m2. Regarding the nutritional status of children with SLE, 10 children were classified as malnourished (30%), while 19 children had good/normal nutritional status (60%). Three children had overweight (10%). There was a positive correlation between BMI and vitamin D in children with SLE (p=0.000, r=0.630)

Conclusion: The majority of SLE youngsters have inadequate vitamin D levels. Vitamin D and the nutritional health of children with pediatric systemic lupus erythematosus have a significant favorable association.

Keywords: *Vitamin D, nutritional status, SLE*

Endo 49

Nutritional Status and Metabolic Control in Children and Adolescents with Type 1 Diabetes Mellitus In Manado

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Objective: Nutritional status should be regularly evaluated in type 1 DM (T1DM) children because they may have risk of malnourishment due to the chronic and debilitating nature of the disease. The only validated parameter for establishing the degree of control is glycated hemoglobin (HbA1c). The latest International Society for Pediatric & Adolescent Diabetes (ISPAD) consensus defines good metabolic control based on HbA1c value of less than 7%.[1,2]

METHOD: A single-center and descriptive study were conducted in pediatric patients with T1DM who admitted to pediatric outpatient clinic at Kandou Hospital Manado from January to June 2023. This study investigated samples based on age, sex, height, weight, and HbA1c.

RESULT: There were 19 participants in the current study, with mean age of 10.7 ± 2,48 years. There was a higher proportion of females (57.9%) among study participants. The vast majority of patients were malnourished (68.4%) and had poor metabolic control (84.2%). Among malnourished group, 84.6% of patients had poor metabolic control. Even in the well-nourished group, 83.3% of patients had poor metabolic control, with only 16.7% having HbA1c below 7%.

Conclusion: Majority of children and adolescent with T1DM in our study were malnourished and had poor metabolic control.

Keywords: children, HbA1c, nutritional status, type 1 diabetes mellitus, malnourished.

Endo 42

Clinical Characteristics of Hashimoto's Thyroiditis in Children: A Year Study in Dr. Kariadi Hospital Central Java

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Objectives: Hashimoto's thyroiditis (HT) is the most common cause of autoimmune hypothyroidism in children. Clinical characteristics of HT in children are very diverse, ranging from asymptomatic to severe symptoms with severe thyroid dysfunction. This study described the clinical characteristics of HT in children in order to improve understanding of the disease and achieve early diagnosis and treatment.

Methods: A retrospective study was performed in Dr. Kariadi Hospital Central Java. The Data was collected from patient medical records from May 2022 to May 2023.

Results: We included 15 patients (14 females and 1 male), the mean age of the first diagnosis was 11 years and 4.27 months ± 50.27 months (range 3–17 years). Most of the patients came with normal BMIs (80%) and presented with hypothyroidism (60%). Thyroid enlargement was the main reason for doctor visits (73.3%). The mean duration of symptoms before seeing a doctor was 5.58 ± 9.62 months (range: 3 weeks to 3 years). The mean of TSH and FT4 at diagnosis was 28.97 ± 24.43 uIU/mL and 9.45 ± 7.75 pmol/L. Most patients had high levels of TPO antibodies (66.67%) and abnormal thyroid ultrasounds (86.67%). Eleven (73.3%) patients with hypothyroidism and subclinical hypothyroidism were treated with levothyroxine after diagnosis.

Conclusion: Most children had hypothyroidism upon HT diagnosis. In children with elevated TSH, TPO antibodies can help establish the underlying cause of hypothyroidism. Early diagnosis and treatment are essential to improve patient quality of life.

Keywords**:** Hashimoto's thyroiditis, children, TPO antibodies, hypothyroidism

Endo 48

Risk Factors and Characteristics of Children with Undescended Testicles at Mohammad Hoesin Hospital Palembang: A Retrospective Study

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Objective: Undescended testis (UDT), or cryptorchidism, is one of the most common congenital abnormalities found among male infants. The key exposures in the occurrence of UDT remain elusive. The cause(s) and mechanism(s) are also unclear. This study aims to describe the characteristics and risk factors of children with cryptorchidism at Mohammad Hoesin Hospital.

Methodology: A Case-control study was conducted at Mohammad Hoesin Hospital from 2021-2023. Cases are all patients with cryptorchidism. Controls are healthy children without cryptorchidism, matched by age. Risk factor data was obtained by interviewing the parents and from medical records. Odds ratios (OR) with 95% confidence intervals (CI) were estimated using logistic regression.

Results: Forty-four children (1 to 128 months), 22 Cases and 22 controls were included in this study. On average, children with cryptorchidism were diagnosed at 68 months old, and 16/22 were diagnosed after 12 months. All participants had previous visits with other paediatricians for other reasons but were not diagnosed with cryptorchidism. Among all 22 Cases of cryptorchidism, 8 were born with low birth weight (OR 12, 95%CI 1.2-106.8), 4 were born preterm (OR 2.2, 95% CI 1.6-3.1), 18 from middle-to-upper-income families (OR 3.8, 95% 0.9-14.8), and 6 lived close to factories (OR 2.4, 95% 1.6-3.4).

Conclusion: Most children were diagnosed with cryptorchidism after 12 months old. Cryptorchidism is associated with low birth weight, preterm delivery, being born into middle- to upper-income families, and living close to factories. A thorough physical examination, including genitalia, is essential for all infants to avoid delayed diagnosis.

Keywords: Cryptorchidism, Undescended testicles.

Endo 30

Characteristics of Children and Adolescence with Hyperthyroidism at Mohammad Hoesin Hospital Palembang

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Background: Thyroid dysfunction is a condition when thyroid hormone production becomes imbalanced. Hyperthyroidism can be caused by autoimmune disease. Graves's disease is the most frequent cause of hyperthyroidism. This study aims to determine the characteristics of patients with hyperthyroidism in the Outpatient Department of Pediatric Endocrinology at Mohammad Hoesin Hospital Palembang.

METHODS: This cross-sectional study was conducted at Mohammad Hoesin Hospital from 2021–2022. Data was collected from the patient's registry of the Pediatric Endocrinology Division. Cases were all children and adolescents newly diagnosed with hyperthyroidism. Data, including clinical and laboratory findings, were summarized and analyzed.

Results: There were 33 Cases of patients newly diagnosed with hyperthyroidism. Most Cases (30/33) were females. The average age at diagnosis was 14.6 years old (5–18 years). Among all 33 Cases, 3 had symptoms before puberty, and 30 had symptoms during puberty. Twenty-six Cases had clinical symptoms consistent with Graves's disease (diffuse goiter, exophthalmos, thyrotoxicosis); 6 had clinical symptoms of thyrotoxicosis and diffuse goiter; and one only had clinical symptoms of thyrotoxicosis. Twenty-eight Cases had their anti-TPO tested. Among the 28 Cases tested, 16 were measured >200 IU/ml; one was a prepubertal girl whose clinical findings were inconsistent with Graves's disease. The average FT4 level was 2.93 ng/dl (range 1.2–6 ng/dl). Only two Cases had TRAb examinations, with measured levels >1.75IU/L.

Keywords: Characteristic, Hyperthyroidism, Thyroid

Endo 40

The Referral Awareness of Children with Differences of Sex Development (DSD)

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Background: The birth of children with DSD (Differences/Disorder of Sex Development) is a social rather than a medical emergency. It could be baffling for parents to determine their child's gender. Many factors contribute to the diagnosis and treatment. This study shows the data of children with DSD to determine the awareness of early recognition.

Methods: This descriptive study showed the clinical features measured by External Masculinization Score (EMS) and the time of referral. We excluded the Cases with Congenital Adrenal Hyperplasia. The data was obtained from medical records of patients diagnosed with DSD in Kariadi Hospital from May 2022-2023.

Results: A total of 23 patients come to the pediatric endocrinology clinic. Twenty-one patients (91.3%) were referral Cases, and two (8.7%) were direct admission. The mean age was 46.4 $\pm$ 64.7 months (range 3 days-19 years). Most patients (52.2%) came after one year of age. The clinial features were ambiguous genitalia (10 patients; 43.4%), micropenis (9 patients; 39.1%), undescended testis (2 patients; 8.7%), and menarche (1 patient; 4.3%). The average EMS score was 5.4 $\pm$ 2.7 (range 1-11). Twenty patients (86.7%) identified as male. Based on karyotype examination, there were 18 Cases with XY DSD (78.2%); three sex chromosome DSD (13%), and two 46, XX DSD (8.7%).

Conclusion: Children with DSD could be recognized in early life. However, the referral age was still considerably late (over 1-year-old). Educational support for parents and multidisciplinary collaboration among pediatric endocrinologists, urologists, geneticists, neonatologists, and midwives was substantial for early diagnosis and comprehensive treatment.

Keyword: Ambiguous Genitalia, Differences of Sex Development, Sex Chromosome DSD , 46 XY DSD

Endo 50

Factors associated with Ketoacidosis Diabeticum incidence in RSUP Kandou Manado

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Background
Diabetic ketoacidosis (DKA) is a serious complication of relative insulin deficiency affecting primarily type-1 diabetes mellitus (DM). DKA can occur in DM when insulin levels fall far behind the body's needs. DKA is so named due to high levels of water-soluble ketone bodies (KBs), leading to an acidotic physiologic state. The aim of this study is to describe the frequency, clinical characteristics and predictors of DKA at the onset of diabetes melitus in children and adolescents in RSUP Kandou Manado and to compare the clinical and biochemical characteristics between group presented with ketoacidosis diabeticum (DKA) and those did not.

Methodology:
- The study performed in January 2022- December 2022 at RSUP Prof Dr.dr Kandou in Manado was evaluated retrospectively.
- The socioeconomic status of both groups (with/without DKA) and variables include paternal and maternal education levels was compared in this study

Results
Thirty-seven newly diagnosed children with T1D in 2022. 7/37 (18.9%) presented in DKA. Among patients with DKA, 5 (71%) in mild DKA and 2 (28 %) in moderate/severe DKA. Variables associated with increased risk of DKA at presentation of T1D include HbA1c level (p=0,032), natrium levels (p=0,028) at diagnosis, drug compliance (p=0,01) and education level of parents (OR=0.667 p=0.010). BMI percentile (<3% or > 97%) is not significantly associated with DKA.

Conclusion : The incidence of DKA in T1D is associated in children with HbA1C level, sodium level, medication adherence, and education level of parents. In contrast, BMI is not significantly associated with DKA.

Keywords : ketoacidosis diabeticum, diabetes melitus, educational Background

ITD 28

Precocious Puberty Incidence during Pre and COVID-19 Pandemic: A Systematic Review and Meta-Analysis

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Introduction: Several causes impacted children during the COVID-19 pandemic, which may have contributed to several health issues, including endocrine and puberty problems. This review aims to compare the incidence of precocious puberty during the pre and COVID-19 pandemic.

Methods: We collected observational studies from several databases, including PubMed and Scopus, that were published from 2018 to 2023 with keywords “children”, “pediatric”, “adolescents”, “COVID-19”, “SARS-CoV-2”, “coronavirus”, “precocious puberty”, “early puberty”, “premature puberty”, “gonadotropin-releasing hormone-dependent precocious puberty” and “central precocious puberty”. Studies were assessed using Newcastle-Ottawa Scale (NOS). We performed a meta-analysis using a random-effect model in Review Manager 5.4.

Results: Eighty-two articles were identified, and 18 studies were included in this review. Most studies were concluded to have a low risk of bias based on NOS assessment. A total number of 2,840,613 patients were screened for suspected precocious puberty. Thirteen studies reported a significant increase in precocious puberty Cases during pandemic. The pooled relative risk of meta-analysis was 2.30 (1.76-3.01). However, the funnel plot showed an asymmetrical figure, indicating possible publication bias.

Conclusion: The incidence of precocious puberty in children was significantly increased during the COVID-19 pandemic compared to pre-pandemic.

Keywords: Precocious puberty, COVID-19, Pandemic, Children, Meta-Analysis.

AI 26

Analysis of Regression Curve Estimation: Skin Prick Test Induration and Combined Symptom Medication Score in Allergic Rhinitis Children Receiving Immunotherapy

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Objective: Allergen immunotherapy (AIT) represents the only immune-modifying and causal treatment for allergic rhinitis, that induced by various allergens such as house dust mite (HDM). Combined Symptom Medication Score (CSMS) is recommended to assess clinical efficacy of AIT, as it equally combines symptom scores and medication scores. This study aims to analyze and adjust factors affecting CSMS reduction, especially predicting relationship between sensitization (reflected by skin prick test induration) and treatment efficacy (reflected by CSMS reduction).

Methodology: This study was a retrospective cohort at Dr. Soetomo General Hospital during June – July 2023. Subjects aged 1-18 years old, represented by their parents to fulfill CSMS for the condition before start AIT and 3 months after. Skin prick test (SPT) was done before AIT. Potential individual factors were analyzed individually and concurrently by multivariate regression, then included in regression curve.

Result: A total of 57 patients were enrolled during the study period. There was significant difference between CSMS before and after 3 months AIT ($p<0.01$). Bivariate analysis shows 3 individual factors affecting CSMS reduction: HDM SPT induration, medication score, and CSMS before immunotherapy. Multivariate regression shows only HDM SPT induration found to be significant to CSMS reduction. Several regression estimation curve models were analyzed, found that Quadratic curve ($p<0.05$; with coefficients $p<0.05$) had significance predictive value of CSMS reduction.

Conclusion: HDM AIT has a remarkable effect on reducing CSMS. HDM SPT induration could predict CSMS reduction using Quadratic function. Prediction of improvement is obtained to promote patient education before starting AIT.

Keywords: allergic rhinitis, combined symptom medication score, house dust mite, immunotherapy, skin prick test.

AI 32

Correlation Between Degree of Hypertension and Degree of Proteinuria in Pediatric Lupus Nephritis

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Background : Lupus Nephritis is a manifestation of renal disease activity which developed from Systemic Lupus Erythematosus (SLE). Approximately, about 40%-60% SLE patient progress to Lupus Nephritis which represents as one of the most serious complication. The progression of is difficult to be measured and diagnostic tools including biomarkes serum examination and biopsy of kidney, both are expensive and invasive. In this study, we analyze the correlation between blood pressure and proteinuria in purpose to measure disase severity of Lupus Nephritis.

Methodology : This is cross sectional study conducted in Hasan Sadikin General Hospital from January 2019 until July 2023. We collected data from medical record including patient's anthropometry, blood pressure, quantitative proteinuria levels, serum ureum and creatinine levels, and the amount of antihypertensive agent combination consumed by patient.

Result : In total 52 patient, only 40 patients met inclusion criteria. According to Spearman correlation test, degree of hypertension in Lupus Nephritis patient has a significant correlation with degree of proteinuria (r=0.510, p=0.001) and the amount of combination of antihypertensive agent consumed with degree of proteinuria (0.404, p=0.010). Multivariate analysis was calculated by using path analysis and there is a significant direct effect of stage of hypertension with degree of proteinuria (coef. Path=0.509, p=0.000) and the amount combination of antihypertensive drug with degree of proteinuria (Coef. Path = 0.382, p=0.025).

Conclusion : Based on the result, hypertension has a significant effect to the progression of disease severity in Lupus Nephritis. Blood pressure is an important marker to reduce renal disease activity in Lupus Nephritis.

Keywords : Blood Pressure, Lupus Nephritis, Pediatric, Proteinuria.

AI 52

Correlation of Muscle Mass with Gait Speed in Children with Systemic Lupus Erythematosus

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Background: Systemic lupus erythematosus (SLE) is a chronic condition that can lead to sarcopenia. It is associated with decreased muscle quality and quantity. Sarcopenia in SLE patients has not been extensively researched. Sarcopenia can be caused by a sedentary lifestyle, immobility due to disease, or decreased physical function. Gait speed is one of the parameters used to evaluate physical function. The aim of this research was to analyze the correlation between muscle mass and gait speed in children with SLE.

Methods: Patients aged 12–18 years old with SLE were included in this cross-sectional analysis. From May 2023 to June 2023, we gathered information on patients' weight, height, and body mass index (BMI), as well as their gait speed, using the 6-metre walking speed test at Dr. Kariadi Hospital. The Pearson correlation test was used in the analysis.

Results: In this study, 34 subjects were involved, 33 subjects were female and 1 male subject. The average height and muscle mass (SD) of the subjects were 150.82 ± 8.05 and 15.48 ± 2.86, respectively. Height and gait speed showed a moderately strong correlation ($p < 0.05$, $r = 0.424$). Meanwhile, the average gait speed was 0.80 ± 0.13 m/s for usual gait. There was a significant correlation between muscle mass and gait speed ($p < 0.05$, $r = 0.377$). The SLEDAI score, corticosteroid dose, and daily protein intake did not affect the subject's gait speed.
Conclusion: Muscle mass was associated with physical function, which was reflected in gait speed in children with SLE.

Keywords: Systemic Lupus Erythematosus, Sarcopenia, Muscle Mass, Gait Speed.

AI 05

Severe Congenital Neutropenia : a Case Report

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Background
Severe congenital neutropenia (SCN) is a primary immunodeficiency disease characterized by absolute neutrophil count (ANC) < 500 mm^3 and caused by defect in the activation pathway of granulocyte-colony stimulating factor (G-CSF). Patients will be prone to recurrent and often life-threatening infections with mortality rate as high as 80%. This paper describes a child with severe, persistent, unusual, and recurrent infection then diagnosed as SCN.

Case
A 13-month-old-girl was referred to Cipto Mangunkusumo hospital with recurrent fever. Since 11-month-old, the patient had severe vestibulitis on left nostril without significant history of trauma. Recurrent bacterial infection appeared since 9-month-old. No abnormality in physical examination except fever and vestibulitis. There was persistent neutropenia in the last four months with latest ANC was 480 mm^3. Immunoglobulins and lymphocyte subsets level were normal. HIV test were negative. Bone marrow examination showed maturation arrest at the promyelocyte stage. Patient was diagnosed as SCN and treated with subcutaneus G-CSF 5 mcg/kgbw/day along with intravenous antibiotic. After four days of hospitalization, patient was discharged and continue to receive subcutaneus G-CSF four times a week in the outpatient care. In the monitoring, there was no severe infection, weight gain was adequate and ANC range was 20 – 7840 mm^3.

Conclusion
Establishing diagnosis of SCN is challenging. Patient often assessed only as recurrent bacterial infection and leucocyte differential count result was often missed. Paying attention to leucocyte differential count result in recurrent and unusual infection is important. Subcutaneous G-CSF administration leads to substantial increase in ANC and reduction of infections.

Keywords: ANC, fever, G-CSF, recurrent infection, severe congenital neutropenia.

AI 24

Factor Affecting Severity of Systhemic Lupus Erythematosus on Initial Diagnosis

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Background: The severity of SLE patient on initial diagnosis in southeast asia country was recorded higher than in the western country. This study evaluated factors affecting the severity of SLE on initial diagnosis.

Method: This cross-sectional study evaluated 45 medical records of children (1-18 years old). We used duration of illness before diagnosed, specialist appointment frequencies, Primary, secondary and tertiary health facility appointment frequencies, age of patient when diagnosed and parents education levels. The severity of the disease is estimated with SLEDAI score. All the factor then analyzed by Linear regression. The level of significance was 0.05.

Results: 92% were female and only 8% were male, the mean age was 12.71 with the youngest being 5 years old when initially diagnosed, with mean duration of illness 6.53 weeks.. The mean frequencies of primary, secondary and tertiary apointment 1.6, 1.38 and, 0.71 respectively. Most parent had high school degree. with only 8.9% and 13.3% of father and mother had elementary degree, and only 13.3% and 11.1% of Father and mother had higher education degree. statistically only frequencies of non-allergy immunologist specialist and tertiary appointment affect the severity of SLE patient (p=0.013 and 0.022, 95% CI)

Conclusion: The amount of Non-Allergy immunology specialist appointment and tertiary appointment affect the severity of SLE disease

Keywords: Systemic lupus erythematosus, Severity, Factor.

AI 35

Impact Secukinumab in Quality of Life Pediatric Patient with Moderate to Severe Psoriasis Vulgaris and Obesity : A Case Report

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Background: Psoriasis is chronic, immune-mediated, inflammatory disease affecting up to 2% of children characterized by skin inflammation, epidermal hyperplasia, and increased risk of a painful arthritis, cardiovascular morbidity and psychosocial challenge and it may be triggered by stress, trauma, infection and obesity. Systemic and biologic treatments should be considered for management moderate to severe pediatric psoriasis with high Children Dermatology Life Quality Index (CDLQI), regardless of low Body Surface Area (BSA) involvement and Psoriasis Area Severity Index (PASI). Compared with expanding treatment options for adults, number approved medications for pediatric psoriasis are relatively low. Secukinumab, human interleukin (IL)-17A inhibitor, inhibit release of proinflammatory cytokines and chemokines, has been recently approved for management of pediatric psoriasis aged ≥ 6 years due to its efficacy in clearing skin lesions and improving health-related quality of life.

Case: A 17 years-old-boy with obesity, presented with several erythematous plaques and papules with silvery-white scales involving scalp, trunk, upper and lower extremities since 4 years ago. He had extremely large effect CDLQI, severe BSA and PASI, and then diagnosed with psoriasis vulgaris and given therapy subcutaneous injection of secukinumab 150 mg every week for 5 weeks followed maintenance dose a month after. After 5th injection, lesion was become more hypopigmentation and CDLQI result changed from severe and extremely large effect to small effect.

Conclusion: Secukinumab is an effective and generally well-tolerated treatment for children with psoriasis vulgaris. It can improve children's health-related quality of life since pediatric psoriasis affecting emotional and school functioning.

Keywords: Pediatric psoriasis, secukinumab, Quality Life.

AI 47

Two Cases Appendicitis-Mimicking Multisystem Inflammatory Syndrome in Children

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Background
MISC was one of the complication from COVID-19. Presentation usually characterized by fever, gastrointestinal symptoms, and Kawasaki Disease-like symptoms. Gastrointestinal symptoms, including abdominal pain, vomiting, and diarrhea, have been one of the most common presenting symptoms, however lower right quadrant of abdominal pain presentation is unusual. We report these two Cases to increase awareness.

Case
A 9-year-old girl with fever and recurrent abdominal pain at Mc Burney. Abdominal CT revealed probable appendicitis with retrocaecal appendix. Ceftriaxone was started but 5 minutes after second dose patient experienced redness on the right and left side of face which persist despite diphenhydramine and antibiotic switch to meropenem.
Another Case documented from 16-year-old girl with abdominal pain at Mc Burney spot and midline abdominal for 1 month. The pain was accompanied by midline abdominal pain. Abdominal ultrasound revealed unclear edematous appendix with possible retrocaecal position. Based on the discordance appearance of appendicitis symptoms, MISC was suspected which supported by increased SARS CoV-2 antibody and positive MISC panel test.
As the second Case confirmed for MISC, the first Case was investigated for MISC based on simillary of retrocaecal appendix which revealed positive. IVIG was instituted for the first Case while the second Case was treated with HDMP. The first Case was discharge after 7 days while the second Case on 14th days after treatment.

Conclusion
MISC can be presented with appendicitis mimicking sign. Management should include warranty to operation hence with MISC as differential diagnosis. Favour outcome is derive from IVIG compare to HDMP.

Keywords:
MISC, appendicitis, IVIG, HDMP, children.

AI 07

Similar Clinical Presentation of Systemic Lupus Erythematosus in Siblings

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Background: Systemic lupus erythematosus (SLE) is a systemic autoimmune disease with complex etiology. History of SLE in family increases the risk of SLE. This report aims to report siblings with similar onset and clinical manifestations of SLE.

Case: This Case presentation demonstrates siblings with SLE came with almost similar clinical presentation. A fourteen-year-old girl and a ten-year-old girl were siblings with SLE. At initial presentation they experienced progressive pallor, jaundice, and fatigue. The time diagnosis from onset were 4 months and 1 month subsequently. No history of other organ involvement. On admission, both had anemia (haemoglobin levels 4 g/dL and 4.5 g/dL) with positive Coombs test. The older sister was diagnosed with autoimmune hemolytic anemia at the beginning which didn't improve after four months therapy. Both was evaluated for SLE with positive ANA (1/1000) speckled pattern and (1/1000) with homogenic pattern, high anti dsDNA antibody (524.7 IU/mL and 220.7 IU/mL) and low level of complements (C3 55.9 mg/dL, C4 5.4 mg/dL and C3 39 mg/dL, C4 < 6.43 mg/dL). They were given washed erythrocyte transfusion as needed, corticosteroid, hydroxychloroquine, and mycophenolate mofetil to manage the symptoms. The younger sister had faster time from onset of the symptoms to diagnosis, shorter duration of corticosteroid treatment, and faster remission. Currently, both sisters are in a good control of the disease activity.

Conclusion: Female patients with family history of SLE have an increased risk of SLE up to 22 times. Family history of autoimmune disease is important to help establish an early diagnosis.
Keywords: autoimmune, siblings, systemic lupus erythematosus.

AI 11

Localized Presentation of Multisystem Inflammatory Syndrome in Children (MIS-C), Faster Recovery Outcome

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Background: MISC Cases usually reported with systemic manifestation and severe presentation. MIS-C leads to multiple organ failure, including gastrointestinal manifestations, myocardial dysfunction and coronary abnormalities. MIS-C patients are less likely to develop conjunctivitis, cervical adenopathy, and rash, in comparison with Kawasaki disease patients. Very few mild or localized presentation Cases was reported. In this study, we report a Case of localized MIS-C with a faster recovery outcome.

Case: A 23-month-old boy was brought to the pediatric allergy immunology clinic, referral from a pediatrician with complaints of lump on right preauricular region, which was redden and painful, feels warm, and difficulty opening mouth. There were also multiple small nodules in peri anal area. There was fever for 1 week before admitted, accompanied by a runny nose with clear secretions with no cough. Tonsils are enlarged to T3/T4 without hyperemic nor injection. The presence of fever, conjunctivitis and cracked lips mimicking Kawasaki disease, but Troponin I, electrocardiography and echocardiography were normal. The MISC panel was shown support for MISC, CBC showed presence of lymphopenia, anemia, neutrophilia, and thrombocytosis. Other panel MISC like the eritrosit sedimen rate, quantitative CRP, D-dimer, and quantitative IgG SARS-COV-2 antibodies it was reported to be increased. The patient was treated with intravenous high doses methylprednisolone 10 mg/kg, then tapered off before stopped. The lump was disappeared after the second dose of HDMP, and patient was discharged after 8 days of admission.

Conclusion: We reported a localized presentation of MIS-C treated with HDMP resulting in fast recovery.

Keywords: children, localized presentation MISC, HDMP, outcome.

AI 31

Drug Rash with Eosinophilia and Systemic Symptoms (DRESS) Syndrome Induced by Antituberculosis Drugs

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Objective: Drug reaction with Eosinophilia and systemic symptoms (DRESS) is a severe response to the drug's side effects characterized by skin rashes, internal organ involvement, lymphadenopathy, Eosinophilia, and atypical lymphocytosis. After taking the medicine for two to six weeks, manifesting the effect takes time. It can be challenging to diagnose DRESS because the clinical appearance frequently resembles viral diseases and medication eruptions like morbilli. DRESS is a rare disease caused by pharmaceuticals agents such as anticonvulsants, allopurinol, sulfonamides, nonsteroidal anti-inflammatory medications, minocycline, and antiretrovirals, but in some Cases caused by antituberculosis drugs. The proper diagnosis and therapeutic management are crucial to prevent misdiagnosis of the disease.

Case: A 10 years and one-month-old girl came to the Emergency Room at Hasan Sadikin General Hospital, Bandung, complaining of a red rash all over her body. The rash initially appears on the cheeks and back, then spreads to the face, chest, stomach, and extremities. Symptoms appear after the patient has taken Antituberculosis medications fixed drug combination for 24 days. The patient was suspected of having measles before, and then Eosinophilia, liver involvement, and kidney dysfunction were discovered. Methylprednisolone and Cetirizine were given, and the Antituberculosis drug was discontinued while undergoing treatment. The patient was discharged in a state of improvement.

Conclusion: Drug reaction with Eosinophilia and systemic symptoms is a severe drug reaction that can lead to significant comorbidities in children. Antituberculosis drugs could induce DRESS, so knowing its etiology, signs, and symptoms is important to improve treatment and outcome of disease.

Keywords: Antituberculosis drugs, Child, DRESS

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AI 37

The Correlation between Oral Glucocorticoid and Body Fat in Pediatrics with Systemic Lupus Erythematosus

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Background : Systemic Lupus Erythematosus (SLE) is an autoimmune disease with various symptoms and one of the most common medication is glucocorticoids. Glucocorticoids regulate anti-inflammatory and proinflammatory pathways. Long-term glucocorticoids cause metabolic abnormalities and adipose tissue accumulation. This study will analyze the correlation between oral glucocorticoid use and body fat percentage in SLE patients.

Methods : We included pediatric patients with systemic lupus erythematosus (0 – 18 years old) in this cross sectional study. Anthropometry data (body weight, body height, body fat percentage) and food recall were collected at Kariadi Hospital from April 2023 - June 2023. Spearman correlation test was used in the analysis.

Results : In total, 34 SLE patients were evaluated. The average body fat percentage (SD) were 29.54 ± 9.97. Around 44% of patients received low-dose corticosteroids (<6 mg/day methylprednisolone) and 12% received high-dose (24–80 mg/day). Food recall data has shown patients with high carbohydrate and fat consumption were dominant, yet protein consumption was low. There was no significant correlation between body fat and corticosteroid dosage (p = 0,194). No correlation between food recall with body fat.

Conclusion : In contrast with previous studies, we discovered no correlation between glucocorticoid prescription and body fat percentage. Despite having a high carbohydrate intake, fat consumption from the food recall data, and routine corticosteroid use, body fat percentage was not significantly associated. This finding implicates a need for further analysis about the duration of corticosteroid in certain dosage and the nutritional status.

Keywords : Systematic Lupus Erythematosus, SLE, Glucocorticoid, Body Fat, Food Recall.

AI 39

Body Fat Measurement Associate with Inflammatory Cytokine in Prepubertal Obese Children

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Background: Measurements of childhood obesity can include skin fold thickness, per cent body fat, and BMI. The dominant inflammatory cytokines in prepubertal obese children might be determined by analysing the amount of fat tissue. This study aimed to analyse the body fat measurement associated with tumour necrosis factor alfa (TNF-α) and interleukin 10 (Il-10) in children at pre-pubertal age with obesity.

Methods: This research was a cross-sectional design performed on a random selection of 103 children attending a primary school in Semarang City from January - August 2019. The body fat percentage was measured by bioelectrical impedance analysis (BIA); the skin fold thickness (biceps, triceps, subscapular, supra iliac) was measured with a Harpenden calliper skinfold. Serum TNF-α and IL-10 were measured with ELISA. Data were analysed descriptively, analytically, and hypotheses were tested by correlation test using SPSS for the window.

Results: From 103 samples children, there were obese from BMI measurement (96%), with the average age of children with obesity 8.11 + 1,393 SD; a significant correlation between the percentage of total fat with biceps skinfold ($r=0,497$; $p<0.001$), triceps skinfold ($r=0.739$;$p<0.001$), subscapular skin folds($r=0.647$;$p<0.001$), supra iliac skin folds ($r=0.705$;$p<0.001$). The cytokine anti-inflammation IL-10 was associated with subscapular skinfold thickness ($r=0.207$; $p<0,05$), and no body fat measurements were associated with the pro-inflammatory cytokine TNF-*α*.

Conclusion: Subscapular folds correlate with IL-10 levels in prepubertal obese children, but there is no relationship between the measurement of body fat with TNF- α in prepubertal children.

Keywords: obesity, prepubertal, body fat mass, TNF- α, IL-10.

AI 40

The Use of Rituximab in The Management of Refractory Childhood-Onset SLE

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Background: The management of refractory childhood-onset systemic lupus erythematosus (SLE) can be challenging, especially when standard treatment options like steroids and other immunosuppressants are ineffective. Fortunately, biological agents like rituximab can be used as another treatment option and have been included in Indonesia's national formulary. However, certain restrictions must be considered before using it as an alternative approach.

Case: Three Cases of refractory SLE in adolescent girls aged 13, 14, and 15. The first Case was a patient with hematology, cardiology, renal, and neuropsychiatry involvement. This patient had contraindications to receive cyclophosphamide. The second Case had mucocutaneous, Raynaud's phenomenon, and neuropsychiatric involvement. The third one was a patient with mucocutaneous, malignant hypertension, glaucoma, and persistent vasculitis who showed no improvement with the previous treatment. The second and third patients did not respond to cyclophosphamide (CPA) and intravenous immunoglobulin (IVIG) administration. Subsequently, rituximab was initiated for all patients while continuing the previous immunosuppressive therapy. All patients had better outcomes in the third month after rituximab was given. The outcomes of all patients' SLEDAI scores also demonstrated improvement in the third month after receiving rituximab.

Conclusion: Rituximab showed favorable efficacy in the treatment of refractory childhood-onset SLE. Rituximab can be used as an additional therapy if a patient does not respond to conventional therapy.

Keywords: childhood, refractory, rituximab, systemic lupus erythematosus

AI 42

Pattern of Antinuclear Antibody (ANA) Tests in Children with Autoimmune Disease at Mohammad Hoesin Hospital Palembang: A Retrospective Study

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Objective: Antinuclear antibody (ANA) forms immune complexes that mediate the pathogenesis of many systemic autoimmune conditions such as systemic lupus erythematosus (SLE) by tissue deposition or cytokine induction. Positive ANA tests can be found in patients with rheumatic or non-autoimmune inflammatory diseases. This research aimed to compare the ANA pattern of pediatric patients with SLE compared to non-SLE patients.

Methods: A retrospective analysis of 65 patients with ANA positive less than 18 years of age. Subjects consist of SLE and non-SLE (JIA and JDM) patients at the Pediatric Department, Mohammad Hoesin Hospital, Indonesia.

Results: Sixty-five patients with positive ANA tests had autoimmune diseases, including SLE (n= 53) and non-SLE (n=12). Patients diagnosed with SLE are predominantly female (90,5%) with median age of 14 years 11 months. The pattern of the ANA test in SLE patients was mostly homogenous (54,7%) and predominantly speckled (83,3%) in non-SLE patients. Most SLE patients (52,3%) had ANA titers ≥ 1:640. Among all patients, 31 (47,6%) had titers <1:640, which consisted of 19 SLE patients and all twelve non-SLE patients. The homogeneous ANA pattern was significantly more likely to be found in SLE patients. Homogenous patterns correlated strongly with SLE ($p = 0.001$).

Conclusions: Patients with SLE had a high titer of ANA. Homogenous patterns are associated with SLE.

Keywords: Antinuclear antibody, children, pattern, systemic lupus erythematosus.

AI 44

Cyclosporin Use for Treating Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS)

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Objective: Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS) is a rare drug-induced hypersensitivity reaction that involving skin, hematology, liver or renal systems. This Case report aim to describe cyclosporine was successfully used to treat DRESS.

Case: A 16-years-old boy presented to emergency department with reddish appearance on all over his body. He was previously diagnosed with chronic osteomyelitis tibia and treated with cefadroxil and diclofenac sodium. Two weeks after taking the drugs, he complained fever and appeared reddish on the face spreading throughout the body. Laboratory tests on previous clinic showed white blood cell count of 24.000, high eosinophil count of 14% (NV 2.0-4.0%), elevated transaminases enzymes ALT 24 and AST 89. He was then treated with methylprednisolone 2 mg/kg/day since one week before admission to our hospital. On physical examination, there was maculopapular rash on his face, neck, trunk, extremities, and inguinal lymphadenopathy. Transaminase enzymes increased 4 times (ALT 105 U/l, AST 415 U/l). The RegiSCAR score was 4. Methylprednisolone is continued along with antihistamine until the rash disappeared. Emollient and topical antibiotic applied on the affected area. The rash has reduced in 4 weeks, while transaminase enzymes remained high. He started receiving cyclosporin (1 mg/kg/day) while tapering down steroid dose. The patient showed rapid improvement in skin rash and liver dysfunction over 3 weeks.

Conclusion : DRESS is a rare and severe hypersensitivity reaction. Management of DRESS is immediately stopping the suspicious drug and use of steroids. Cyclosporin can be used as an alternative treatment for DRESS.

Keywords : Drug Reaction with Eosinophilia and Systemic Symptoms, RegiSCAR, cyclosporin.

AI 45

Localized Presentation of Multisystem Inflammatory Syndrome in Children (MIS-C), Faster Recovery Outcome

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Background: MISC Cases usually reported with systemic manifestation and severe presentation. MIS-C leads to multiple organ failure, including gastrointestinal manifestations, myocardial dysfunction and coronary abnormalities. MIS-C patients are less likely to develop conjunctivitis, cervical adenopathy, and rash, in comparison with Kawasaki disease patients. Very few mild or localized presentation Cases was reported. In this study, we report a Case of localized MIS-C with a faster recovery outcome.

Case: A 23-month-old boy was brought to the pediatric allergy immunology clinic, referral from a pediatrician with complaints of lump on right preauricular region, which was redden and painful, feels warm, and difficulty opening mouth. There were also multiple small nodules in peri anal area. There was fever for 1 week before admitted, accompanied by a runny nose with clear secretions with no cough. Tonsils are enlarged to T3/T4 without hyperemic nor injection. The presence of fever, conjunctivitis and cracked lips mimicking Kawasaki disease, but Troponin I, electrocardiography and echocardiography were normal. The MISC panel was shown support for MISC, CBC showed presence of lymphopenia, anemia, neutrophilia, and thrombocytosis. Other panel MISC like the eritrosit sedimen rate, quantitative CRP, D-dimer, and quantitative IgG SARS-COV-2 antibodies it was reported to be increased. The patient was treated with intravenous high doses methylprednisolone 10 mg/kg, then tapered off before stopped. The lump was disappeared after the second dose of HDMP, and patient was discharged after 8 days of admission.

Conclusion: We reported a localized presentation of MIS-C treated with HDMP resulting in fast recovery.

Keywords: children, localized MISC, HDMP, outcome.

AI 04

Cipto Mangunkusumo Hospital Experience using Tocilizumab in Juvenile Idiopathic Arthritis: A Case Series

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Background. Juvenile idiopathic arthritis (JIA) is the most common rheumatologic disease in children. Biologic disease modifying antirheumatic drugs (bDMARDs) is widely used as treatment modalities in JIA children who had suboptimal response with conventional therapy. This Case series aim to describe our experience using tocilizumab in Juvenile Idiopathic Arthritis.

Case. Seven JIA children were given tocilizumab, a humanized monoclonal antibody against the interleukin-6 receptor, since 2020. Majority were systemic JIA (4/7). The other three were polyarthritis with negative rheumatoid factor, oligoarthritis, and enthesitis related. The age range at first tocilizumab administration was 2.1-11.9 years old. The mean time from diagnosis to tocilizumab administration was 1.7 years (0.4-2.8 years). The range of baseline IL-6 level was 9.8-193 pg/mL. Screening for tuberculosis, hepatitis B and C were done before tocilizumab administration. Five children give good outcome. They showed clinical and inflammatory marker improvement after the 3rd doses of tocilizumab. Other conventional DMARDs and steroid could be weaned off or discontinued. One child had experienced anaphylaxis in 5th doses of tocilizumab lead to discontinuation. Mortality happened in one child with systemic JIA due to severe sepsis.

Conclusion. Tocilizumab should be considered as treatment modality in children with JIA who had suboptimal response with conventional DMARDs.

AI 15

Juvenile Systemic Sclerosis with Raynaud Phenomenon: A Case Report

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Background:
Juvenile systemic sclerosis (JSSc) is a rare chronic connective tissue disease primarily affecting adults. It can also occur in children under 16, accounting for less than 5% of all Cases. JSSc is characterized by symmetrical skin thickening and internal organ fibrosis. One of its primary symptoms is Raynaud's phenomenon.

Case:
A 16-year-old girl presented at Cipto Mangunkusumo Hospital with thickening skin lesions on her forehead, nose, and left arm, which later became depigmented. She experienced bluish discoloration on her fingers when exposed to cold temperatures. Over two months, painful skin lesions appeared on her forehead, back, right shoulder, and right knee, affecting nearby joints. Laboratory tests indicated high ESR levels, positive ANA with a homogenous pattern (titer 1/320), and mild lupus anticoagulant positivity. Anti-dsDNA and anti-phospholipid marker was negative. Treatment commenced with methotrexate and hydroxychloroquine. After six months, the patient faced difficulties in swallowing, palpitations, and limited range of motion (ROM) in her shoulders, wrists, and knees. Oral methylprednisolone was administered, leading to an improved ROM and resolution of dysphagia, but no change in Raynaud's. In the following months, new skin lesions, stiffness in the index finger, and intermittent cough emerged. The patient received a CYC pulse and underwent spirometry, revealing moderate restriction in lung capacity (Valentini DAI score 0.5) but no other treatment for the lung.

Conclusion:
The patient meets the preliminary criteria for JSSc and should be continually evaluated for systemic symptoms. JSSc Cases require vigilant monitoring and early intervention to manage symptoms and prevent complications.

Keywords: Systemic sclerosis, Raynaud's phenomenon.

AI 21

Important Role of Moisturizer in Treating a Severe Case of Atopic Dermatitis: Case Report

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Background

Atopic dermatitis (AD) is childhood's most common chronic inflammatory skin disease characterized by pruritic lesions and skin barrier defects. Moisturizing to repair the skin barrier is an important treatment for AD.

Case

A 5-month-old baby had been suffering from severe, itchy eczema all over his body. Lesions had appeared on his front and cheek when he was just 2 months old. Initially, the parents thought that he was allergic to breastmilk, so they started combining it with formula. However, after a month of observation, the eczema worsened. Upon consulting with a doctor, he was diagnosed with AD, seborrheic dermatitis, and cow's milk allergy. The doctor prescribed a topical antibiotic, topical steroid, oral antihistamine medication, and suggested the parents switch to amino acid-based baby formula. However, they chose to use soy milk instead due to the cost. Despite this, their child still suffered from eczema, so they eventually switched to amino acid formula. Unfortunately, the eczema continued and became worse, so they were referred to Harapan Kita Women and Children Hospital. The baby was diagnosed with severe AD and advised to use moisturizer abundantly, not eliminate anything from his diet, and switch back to standard formula feeding. After a month, his skin improved significantly and the eczema subsided.

Conclusion

Moisturizer is crucial for repairing the skin barrier in AD. Avoid changing the patient's diet unless there is evidence of a food allergy.

Keywords: Atopic Dermatitis, Moisturizer, Skin Barrier.

AI 23

Diagnostic Challenges in A 15 -Year-Old Girl with Bullous Pemphigoid: A Case Report

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Background: Bullous Pemphigoid (BP) is a rare autoimmune subepidermal blistering disease commonly occurring in elderly population. Globally, BP in children is still very rarely reported. We report a 15-year-old girl with blistering lesion diagnosed as a childhood bullous pemphigoid (CBP).

Case report: A 15-year-old girl was referred to Harapan Kita National Women and Children Health Center because of multiple vesiculobullous and itchy erythematosus macules lesions distributed widely on almost her entire body. Mucous membranes were not affected. Physical examination showed an eruption of tense vesicles bullous, serous-hemorrhagic with an erythematous base in trunk, face, limbs, palms, flexural and genital. Multiple red erosions and crusts were also found in several places. Possible differential diagnosis were CBP and chronic bullous disease of childhood. Laboratory test result was normal. Skin biopsy was performed, and it revealed subepidermal blister with eosinophil deposits. Direct Immunofluorescent (DIF) showed linear deposit of C3 with moderate intensity along dermo-epidermal junction. Diagnosis of CBP was made. Initial treatment with intravenous methylprednisolone was started and the dosage was quickly tapered and changed into oral. We also gave methotrexate (steroid sparing-theraphy) once a week orally. Remarkable clinical improvement was seen in 3 months after the administration of methylprednisolone and methotrexate.

Conclusion: Bullous Pemphigoid is a very rare Case in childhood, especially in adolescents, therefore prompt recognition of clinical symptoms, histopathology, and DIF examination are crucial for confirming the diagnosis of CBP. Administration of systemic corticosteroids combined with oral methotrexate may lead to favorable outcomes.

Keyword: Childhood Bullous Pemphigoid, blistering, methylprednisolone, methotrexate, adolescents.

AI 28

Growth Patterns in Children with Juvenile Systemic Lupus Erithematosus

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Background: Juvenile systemic lupus erythematosus (JSLE) is an autoimmune disease characterized by chronic inflammation and can have an impact on growth pattern. The study about growth pattern and risk factor still limited. The aim of this study was to evaluate the growth pattern JSLE and identify possible risk factors.

Methods: A cross sectional study was done on Desember 2022. Data of anthropometric measurements and risk factors of growth pattern such as disease activity, duration of steroid administration and hemoglobin level of SLE patients were obtained. And the same data on June 2023 was collected. Data analyzed by SPSS program version 21 with the Wilcoxon test for anthropometric progress and disease severity; as well as bivariate analysis test for risk factors.

Results: Forty patients were included in the study, mean age was 13,22 ± 2,93 years old, BMI gap was 0,17 ± 1,5. Wilcoxon test showed that the variables of height, BMI and MEX SLEDAI had significant differences. From bivariate analysis test, only the variable duration of steroid administration was significant (p value < 0,05).

Conclusions: Children with SLE are at risk of having a negative effect on height including patients with pre-existing growth failure, high cumulative steroid dose, and longer disease duration. However, longitudinal prospective studies are needed to examine damage over time to improve health-related quality of life.

Keywords: Growth pattern, SLE, Corticosteroids, MEX SLEDAI.

AI 30

Correlation between Vitamin D Levels and Gait Speed in Children with Systemic Lupus Erythematosus

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Background: Children with systemic lupus erythematosus (SLE) generally experience a decrease in muscle strength. Systemic inflammation and medication regimens in SLE patients may cause musculoskeletal problems, physical dysfunction, fatigue, and low serum vitamin D levels. One of the criteria used to assess physical function is gait speed. The aim of this study was to analyze the correlation between vitamin D levels and gait speed in children with SLE.

Methodology: This cross-sectional study comprised SLE patients aged 12 to 18 years old. Anthropometry data, a 6-metre walking speed test, SLE disease activity (SLEDAI), and vitamin D levels were collected at Dr. Kariadi Hospital from May 2023 to June 2023. The Spearman correlation test was used in the analysis.

Results: Of the 33 samples, 22 children (66.7%) had vitamin D deficiency, 7 (21.2%) were insufficient, and 4 (12.1%) were sufficient. Most of them (48.5%) had an inactive disease. Fourteen children (42.4%) were given low doses of corticosteroids, five (15.2%) medium doses, twelve (36.4%) high doses, and two (6.1%) very high doses. The average gait speed in the vitamin D deficient group (0.80 ± 0.12) was not significantly different from the vitamin D sufficient group (0.79 ± 0.11). There was no correlation between vitamin D levels and gait speed ($p = 0.947$ and $r = 0.012$). Gait speed was unaffected by corticosteroids and SLEDAI at measurement time.

Conclusion: Most of the subjects had low vitamin D levels; however, there was no correlation between vitamin D levels and gait speed.

Keywords: Systemic Lupus Erythematosus, Vitamin D levels, Gait Speed.

AI 49

Anaphylactic Shock Due to Hornet Sting in Epileptic Child

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Background: Anaphylaxis is a severe and fatal systemic allergic reaction that may be occurring suddenly after contact with an allergenic substance. Allergic reactions to insect bites and stings are common, and the severity of reactions range from local reaction to anaphylaxis. The diagnosis of allergy from stinging and biting insects is generally evident from the history of exposure, typical symptoms, and physical findings.

Case: A 17-years-old male with history of epilepsy came to the hospital with complaints of shortness of breath, darkness vision, itching all over the body after being bitten by *Hymenoptera*. On examination, he had hypotension, tachypnoea and urticaria all over his body. He was promptly treated as for anaphylaxis, with given oxygenation, intramuscular epinephrine, intravenous normal saline fluid bolus, methylprednisolone and diphenhydramine intravenously.

Conclusion: Anaphylaxis occurs when there is a sudden release of potent, biologically active mediators from mast cells and basophils leading to multiple symptoms. Complex immunological mechanisms that regulate the allergic reaction may play a key role in central nervous system manifestations. The disruption of the blood-brain barrier by the activation of brain mast cells can lead to local neuronal inflammation that could constitute an epileptogenic focus. Neurologic reactions are quite diverse, potentially life-threatening and occur minutes to days after the sting with long-term consequences. Corticosteroids often have good results in patient with neurologic manifestations.

Keywords : Anaphylactic Shock, Insect Bites

AI 50

Toxic Epidermal Necrolysis, Global Developmental Delay and Mix Anemia due to Inflammation and Iron Deficiency in A Child

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Background: Stevens Johnson Syndrome (SJS) and Toxic Epidermal Necrolysis (TEN) are dermatologic emergencies characterized by widespread epidermal necrolysis and sloughing. In this study, we reported a 1-year-old girl with TEN and anemia.

Case: A 1-year-old girl presented with blistering lesions all over the body for the last six days. The lesions were initially red spots which spread throughout the body. She also had shortness of breath. Before her symptoms, she received herbal medicine consisting of peda wood, mango dodol tree trunks, green beans, and soursop tree trunks. Physical examinations revealed stable vital signs. Dermatological examinations showed hyperpigmented erythematous multiple macules, well-defined, numular-plaque size, bullae (+), erosion (+), Nikolsky's sign (+). Oral examinations showed erosion with crust, approximately 76% of lesion area. Laboratory examinations showed hemoglobin 8.6 g/dL, leukocytes 11,400 /mm^3, thrombocytes 8,000/mm^3, sodium 140 mmol/L, potassium 6,6 mmol/L, chloride 102 mmol/L and albumin levels 2.53 g/dL. Peripheral blood smears revealed leukocytes with signs of inflammation or infection. The patient was treated with fluid therapy, intravenous methylprednisolone 5 mg/kgBW/day), intravenous ceftriaxone and gentamicin, hypoallergenic ambiphillic cream, silver sulfadiazine cream, and daily wound compression with normal saline. Following the treatments, her conditions had improved and skin lesions resolved.

Conclusion: Supportive care is the mainstay of treatment for SJS/TEN, including cessation of the causative drug, fluid and electrolyte management, infection control, and wound care. Fluid, electrolyte, and nutrition management is important and mirrors the requirements of burn patients due to insensible losses through wounds.

Keyword: Toxic Epidermal Necrolysis, Nikolsky's sign

AI 01

Correlation between Immunization Status and Clinical Stage in Children with HIV at RSUP DR. M. Djamil Padang

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Background Immunization is a preventive action aimed at reducing morbidity and mortality from vaccine-preventable diseases. WHO recommends that all vaccines be given to children with HIV, except for the BCG (Bacillus Calmette-Guérin) vaccine in symptomatic HIV-infected children. However, further research is needed on the administration of vaccine, as its effectiveness in HIV-infected children may be reduced due to decrease of vaccine-induced antibodies.

Methods This study used a retrospective cohort design. Data were obtained from medical records, including all children treated at the Polyclinic of RSUP M Djamil in 2023. Bivariate data analysis was performed using *chi square* analysis with a significance level of $P<0.05$.

Results The total number of children with HIV in this study was 32, with 9 children (28.1%) having complete immunization status, with the most clinical stage of HIV was clinical stage I (46.9%). All children who received complete immunization were diagnosed with HIV after the age of 1 year. Based on bivariate analysis, no colleration was found between immunization status and clinical stage in children with HIV, with a P value of 0.477 ($p>0.05$).

Conclusion There was no colleration between immunization status and clinical stage in children with HIV receiving treatment at RSUP M Djamil Padang in 2023.

Keyword : HIV, Immunization, Clinical Stage of HIV.

AI 06

Henoch-Schonlein Purpura

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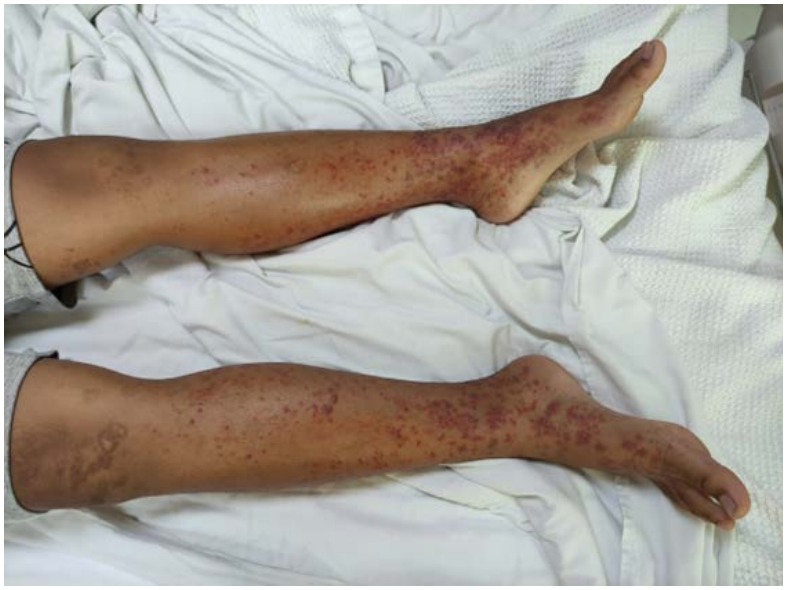
Objective: Henoch-Schonlein purpura (HSP) is an IgA-mediated systemic small vessel vasculitis. HSP is the most common systemic vasculitis in children between 2 and 15 years of age.

Case: A 13-year-old boy was admitted to the Emergency Department with complaints of purplish-red rashes on both legs for the past week. He had fever for two days. He also complaints of lower abdominal pain and difficulty defecating, joint pain was found. The vital signs were normal. Full Blood Count results showed platelets at 466.000/ul, Hb at 15.2 g/dL, leukocytes at 18,240/ul, ureum at 26.2 mg/dL and creatinine 0.51 mg/dL. Urinalysis showed that protein and occult blood were negative. Before, at ER we difffrentiated diagnosis with scabies because of his social history. Later based on the finding of palpable purpura, the presence of abdominal pain and arthralgia we suspected pasien with HSP. The patient was hospitalized for 3 days and given oral corticosteroid and symptomatic therapy. The patient's condition improved, and complaints of rashes on the legs also gradually disappeared.



Conclusion : However, blood vessel inflammation in HSP is predicted relates to an abnormal immune system response to infection (autoimmune).The diagnosis should be based on the finding of nonthrombocytopenic palpable purpura in the presence of at least one of the following criteria, diffuse abdominal pain, arthritis or arthralgia, renal involvement (hematuria and/or proteinuria), and a biopsy showing predominant IgA deposition. Most Cases are self-limited. Therapy consists of general and supportive measures as well as treatment of the sequelae of the vasculitis.

Keyword : Palpable Purpura, Abdominal Pain, Arthralgia, Henoch-Schonlein Purpura.

AI 09

Cardiovascular Manifestations in Pediatric Systematic Lupus Erythematosus in Dr. Moewardi Hospital

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Background: Cardiac involvement in systemic lupus erythematosus (SLE), such as pericarditis, valvular disease, coronary artery disease, and heart failure, carries high mortality rate. Its cardiovascular manifestations have variable courses ranging from mild to severe. This study reports cardiovascular manifestations among pediatric SLE patients.

Methodology: A cross-sectional analytical study was conducted in pediatric patients with SLE diagnosed based on SLICC or ACR/EULAR criteria undergoing echocardiography in Dr. Moewardi Hospital, Surakarta from July 2022 to June 2023. Bivariate analysis used fisher's exact test and $p<0.05$ was considered statistically significant.

Results: Twenty-five subjects were included in the study with mean age of 14.4 ± 2.7 years old. Most subjects were female (84%). Cardiovascular involvement was present in 10 (40%) subjects, comprising pericardial effusion (n=4), valvular heart disease (n=5) and cardiomyopathy (n=1). Among subjects with valvular heart disease, one of them had rheumatic heart disease. Statistically, cardiovascular involvement did not associate with age ($p=0.350$) and sex ($p=0.108$).

Conclusion: Cardiovascular manifestations are common in SLE patients, and they have no association with age and sex. Echocardiographic assessment should be considered as a part of routine examinations for SLE patients.

Keywords: systematic lupus erythematosus, cardiovascular, echocardiography.

AI 10

Clinical Characteristics Juvenile Idiopathic Arthritis in dr. Moewardi Hospital Surakarta 2018 – 2023

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Background: Juvenile idiopathic arthritis (JIA) is the most common cause of short and long-term disability and the leading cause of chronic rheumatic disease in children. It is very difficult to establish the diagnosis due to no specific test and its similarity of symptoms to other diseases. This study aim to describe the characteristics of JIA in dr. Moewardi Hospital.

Methodology: A cross-sectional study was conducted in pediatric patients with JIA visiting Allergy and Immunology Outpatient Clinic of dr. Moewardi Hospital, Surakarta from July 2018 to July 2023. The data were taken from the medical records of patients.

Results: Seventeen patients were included in the study, with the mean age of 8.8 ± 4.5 years old. Most of them were females (n=13 ; 76%). Oligoarthritis was the most common symptom (n=10 ; 58%), in female (n = 7) and male (n = 3), affecting mostly on the knee (n=7) and wrist (n=6). Thrombocytosis was found in 52% subject, in female (n = 7) and male (n =2). Increased ESR and increased hs-CRP were found in 41% and 29% subjects, respectively. Rheumatoid Factor (RF) was positive in 2 subjects. Antinuclear Antibody (ANA) was positive in 1 subject.

Conclusions: JIA is more common in female than in male. Oligoarthritis and thrombocytosis are the most common findings of JIA. Rheumatoid factor do not always present in JIA patients in Moewardi Hospital.

Keywords: Juvenile Idiopathic Arthritis, oligoarthritis, Rheumatoid Factor, Antinuclear Antibody.

AI 36

Correlation between Vitamin D and Severity of: Allergic Rhinitis in Children A Systematic Review and Meta-Analysis

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Objective: Vitamin D can regulate the body's immune cells that influence in allergic rhinitis pathophysiology. The mechanism of action of vitamin D regulates the performance of macrophages, toll-like receptors (TLRs) and natural killer (NK) cells, as well as most Th2 cell-mediated components.

Method: Systematic reviews and meta-analyses regarding the correlation between vitamin D levels and allergic rhinitis in children have been published previously. A search of these publications is carried out using the appropriate keywords and conjunctions. Search results were collected and selected based on predetermined inclusion criteria.

Result: Researchers found 9 studies in the form of 6 observational studies and 3 clinical trials. Based on the results of a meta-analysis, children with allergic rhinitis had lower vitamin D levels than healthy controls. Duration of symptoms (intermittent and persistent), there was no significant difference in vitamin D in pediatric patients with intermittent and persistent allergic rhinitis with a pooled mean difference of -0.72 (95% CI -2.56:1.12) and a p value of 0.44. The results of the meta-analysis showed no significant difference in vitamin D levels in children with mild and moderate-severe symptoms with a pooled mean difference of 1.24 (95% CI -0.47:2.95) and a p value of 0.16.

Conclusion: Vitamin D significantly reduces nasal symptoms in allergic rhinitis in both observational studies and clinical trials

Keywords: vitamin D, allergic rhinitis, pediatrics.

AI 43

Systemic Lupus Erythematosus in A 12-Year-Old Boy: Mimics or Misdiagnoses?

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Objective: SLE is a complex and chronic autoimmune disease caused by the body's aberrant response to self-antigens, resulting in damage to various organs and tissues. SLE is more common in girls than boys, with a ratio of 9:1. The manifestations of SLE are highly variable, and the course of the disease is unpredictable.

Case: A 12-year-old boy was treated for shortness of breath. Previously, the patient complained of pain during urination, hematuria, proteinuria, hypertension and prolonged fever which was treated for several months with Post-streptococcal acute glomerulonephritis. The patient, before complaining of these symptoms, actively played football. From the physical examination, the patient had pallor and shifting dullness. A CT scan of the abdomen with ascites and lymphoma results and an echocardiographic examination revealed dilated cardiomyopathy. The patient also appeared to have acute cutaneous lupus and history of discoid lupus on his nose. Various organ abnormalities were found, an ANA IF examination was carried out with a result of 1:1000 and anti-DsDNA 668, and the patient was treated with severe SLE.

Conclusion: To diagnose SLE, we can use EULAR 2019 for this patient with an ANA IF of 1:1000 and total clinical criteria of 26. The manifestations of SLE often resemble the symptoms of other diseases, with manifestations in various organs.

Keywords: SLE, boy, various organ manifestations.

AI 46

Demographic and Clinical Characteristic in Children with Henoch-Schonlein Purpura in Moewardi General Hospital, Surakarta

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Background
The incidence rate of Henoch-Schonlein Purpura worldwide up to 3 -27 in every 100.000 children per year.[1] Systemic lupus erythematosus (SLE) and HSP have same incidence rate,[2] but in Moewardi General Hospital, HSP is not much as SLE. One-third of HSP patients has at least one time of relapse. This study is aimed to know demographic and characteristic HSP in Moewardi Hospital.

Method
A descriptive study in Moewardi Hospital at Surakarta. HSP was diagnosed by EULAR criteria. All data were taken from electronic medical record from January to July 2023. Data of all each patient including age of diagnosed, sex, manifestation of HSP, incidence of relapse and nutritional status.

Result
In this study, we have 11 samples. Male to female ratio is 1.2, mostly were diagnose in 5 - 9 years (81.8%). Clinical manifestation reported in Abdominal, renal, joint involvement were 72.7%, 18.1 %, 9% respectively. Three from eleven subjects had relapse. Overweight was most found in paediatric HSP (45.4%) and wasted was found in 3 patients (27.2%). The corelation of relapse with sex has p-value1.00. P-value of relationship between relapse with age are 0.055. The relationship between clinical manifestation and relapse has p- value 1.00. And the corelation between relapse and nutritional status have p – value 0.061.

Conclusion
HSP was predominantly occurred in male in this study. Pick of age was 5 to 9 years at first diagnose. Abdominal manifestation is commonly found in HSP. Paediatric HSP should be monitored closely due to its relapse.

AI 51

Henoch Schonlein Purpura, Hypertension Grade I and Moderate Protein Calorie Malnutrition in A Child: A Case Report

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Background: Henoch-Schönlein purpura (HSP) is an IgA-mediated systemic small vessel vasculitis with a predilection for the skin, gastrointestinal tract, joints, kidneys and most common form of systemic vasculitis in children. In this condition, hypertension is most often linked with renal involvement, but it can also occur in the absence of urinary abnormalities.

Case: A 12-year-old girl presented with abdominal pain worsened in the last one day accompanied by vomiting and reddish-purple rashes on both legs. Blood pressure 130/100 mmHg, nutritional status is moderate protein calorie malnutrition and multiple painless palpable purpuras with various sizes and well-defined borders on both legs. Laboratory results: hemoglobin 14.1 g/dL, hematocrit 40%, leukocytes 29,000/mm^3, platelets 298,000/mm^3, ureum 25 mg/dl, creatinine 0.2 mg/dL. ANA-IF was negative. Based on the 2008's European League against Rheumatism (EULAR) and Pediatric Rheumatology European Society (PRES) criteria, she was diagnosed with Henoch-Schönlein purpura and hypertension was treated with methylprednisolone pulse, paracetamol, captopril and nutritional assesment was given according to RDA.

Conclusion: The dominant clinical sign is erythematous macular rash on the skin which becomes palpable purpura without thrombocytopenia and mainly found on pressure-bearing surfaces, such as lower extremities. Isolated hypertension in HSP without renal involvement is rare with very few Cases reported. There are no specific abnormalities seen with laboratory examination, the diagnosis is mostly made from clinical. Accordingly, we treated the patient with methylprednisolone and captopril for reduce the symptoms, prevent relaps and complications.

Keywords: Henoch-Schönlein purpura, hypertension, malnutrition.

AI 53

Systemic Lupus Erythematosus Presenting as Stevens Johnson Syndrome in A 12-Year-Old Girl

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Objective: SJS is an acute mucocutaneous reaction characterized by extensive necrosis and detachment of the epidermis and mucosal epithelium mediated by the immune system, usually precipitated by drugs. SLE is a multisystem, autoimmune disorder in which the skin is the second-most common organ involved.

Case: 12-year-old girl, referral from the district hospital, with erythematous rash and blister appearing on whole body. The patient was previously diagnosed with nephrotic syndrome and received therapy with methylprednisolone and captopril. Patients also complain of prolonged fever, photophobia, hair loss, and joint pain. On physical examination, erythematous rash and blister was found on whole body. Red eyes, blistered lips, and mouth sores. Pretibial pitting edema is found. Laboratory tests found increased ESR, CRP, hypoalbumin, increased ureum level, proteinuria, and hematuria. An autoimmune examination was carried out with ANA IF 1:1000, anti-Ds-DNA 767, and complement within normal limits. Hence, the diagnosis of SLE was made. Appropriate supportive treatment was started for her SJS; the patient responded well and continued with SLE management.

Conclusion: Steven johnson syndrome is a rare disease and is usually caused by drugs. Other causes can be related to autoimmune diseases like SLE.

Keywords: SJS, SLE, autoimmmune, erythematous rash, blister.

AI-2-03

Stevens-Johnson Syndrome–Toxic Epidermal Necrolysis (SJS-TEN) Overlap Syndrome Induced by Suspected Paracetamol: A Rare Case in Pediatric

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Objective: Stevens-Johnson Syndrome-Toxic Epidermal Necrolysis (SJS-TEN) overlap syndrome is a severe cutaneous adverse reaction majorly caused by drugs. Although rarely reported, this condition is life-threatening. Paracetamol, as one of the widely used drugs, can induce SJS-TEN overlap syndrome with a mortality prevalence rate of 7.5% in 11 to 15-year-old children.

Case: An 11-year-old boy was admitted to the hospital with blisters and burning pain that started on the lips and progressed all over the body four days before hospital admission. He also had a fever and cough. Complaints were felt several hours after taking paracetamol to treat fever. Physical examination showed a temperature of 38.8^{o}C, mucosal erosions and crusts on the lips, and diffuse patches with blisters on the face, trunk, and extremities. Nikolsky's sign was positive. He was clinically diagnosed with SJS-TEN overlap syndrome most likely induced by paracetamol. A multidisciplinary team was involved in his care, including pediatric, ophthalmology, and dermatology departments. Paracetamol was stopped. He was treated with intravenous crystalloid, methylprednisolone, and ceftriaxone. The ophthalmologist gave ofloxacin and fluorometholone eyedrops. The dermatologist did daily gauze compresses with normal saline, topical clobetasol, and gentamicin. The patient went home before the treatment was completed due to financial limitations.

Conclusion: Comprehensive management is needed to reduce mortality. Systemic corticosteroids and antibiotics, maintenance of body temperature and fluid-electrolyte balance, and a strict aseptic environment are crucial for the patient. Further research is needed to know the duration of treatment to get optimal recovery.

Keywords: Stevens-Johnson Syndrome, Toxic Epidermal Necrolysis, Paracetamol.

AI 03

Chronic Mucocutaneous Candidiasis Disease with Chronic Lung Disease: Unresolved Diagnosis

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Objective: Chronic mucocutaneous candidiasis disease (CMCD) is a heterogeneous group of syndromes with the common features of chronic noninvasive Candida infections of the skin, nails, and mucous membranes that are usually resistant to topic treatment and absence of invasive fungal infections. The classic forms have associated autoimmune manifestations (most commonly endocrinopathies), and patients may have other microbial infections. CMCD is caused by genetic defects in the immune system.

Case:
A 5-year-old boy with multiple hospital admissions with recurrent candidiasis infection and recurrent pneumonia with malnutrition since 1 year old. At first, the patient has oral thrust, scalp, neck, and genital lesions, which are not improving with oral and topical anti-fungal. The patient also had complaints of pneumonia which became chronic lung disease. The patient consumed fluconazole and azithromycin as prophylaxis. No malignancy, endocrine, or autoimmune disorder were found. Physical examination revealed severe malnutrition, oral thrust, hepatomegaly, and clubbing fingers. Initial workup revealed CD4 cells were low (18% to 23%). KOH skin scrapping result showed positive spora. Chest Ct-Scan with contrast showed cystic bronchiectasis in the right lower lobe. Bronchoscopy showed nodule in intermedius bronchus suspecting secondary infection to fungal with hemorrhage in the right lower lobe. Diagnosis of CMCD was established based on clinical signs but has not yet explained which type. A genetic test couldn't be done to confirm the type of CMCD since it is not available in Indonesia. Then the patient died at 5 years old due to severe pneumonia.

Conclusion: Since clinical signs of CMCD are complex, we need to do a genetic test to confirm the gen mutation to help improve the clinical sign and also to get better treatment.

Keywords: chronic mucocutaneous candidiasis, primary immunodeficiency, chronic lung disease.

AI 08

The Role of Zinc Supplementation in Rhinitis Allergic and Asthma Children: Literature Review

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Objective: Zinc supplementation is among the recommended safe and effective methods of treating diarrhea recommended by WHO and UNICEF was affordable and easy to found but not widely known used to allergic disease in children like rhinitis allergic and especially asthma which is the most common chronic disease in children and is a major global health problem. According to different studies, it was found that zinc deficiency could increase the risk of asthma and different kind of allergies. The aim of this study is to analyze the role of zinc supplementation in rhinitis allergic and asthma children.

Methodology: Literature review with identification, filtration, eligibility determination, and inclusion step. The article was obtained from search engines: Science Direct, Scopus, Proquest, Pubmed and Google Scholar within the year 2018-2023.

Results: 12 articles were obtained through the process meet the inclusion criteria were reviewed.

Conclusion: The analysis result shows that the intervention of zinc implementation gives an effect in increasing a child's improvements in clinical symptoms in rhinitis allergy and asthma.

Keywords: Asthma, Children, Rhinitis Allergic, Zinc.

AI 16

Horizontal HIV Transmission among Adolescents in Cipto Mangunkusumo Hospital: A Case Series

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Objective: Mother-to-child transmission is the predominant mode of HIV transmission of HIV in children. Less frequently, horizontal transmission has also been reported. This report aimed to describe adolescents with horizontal HIV transmission in Cipto Mangunkusumo Hospital, Jakarta.

Case: We reported six Cases of adolescents (five males, one female) aged 15-17 years old at diagnosis of HIV based on ELISA. All Cases had seronegative parents. The methods of transmission were anal intercourse (n=4), unknown, and multiple blood transfusion due to thalassemia. At presentation, four adolescents had WHO clinical stage 4, one with stage 3, and one with stage 2; all had CD4 count below 200 and received *pneumocystis jirovecii* prophylaxis. Opportunistic infection (OI) occurred in all adolescents (CMV infection, tuberculosis, and toxoplasmosis). Sexually transmitted infections related OI occurred in adolescents with history of anal intercourse (one adolescent with gonococcal corneal ulcer and two others had anal warts). Adherence to antiretroviral treatment (ART) was 100% in five adolescents, one adolescent had 60% adherence due to severe depression. All adolescents achieved viral suppression after 6 months of ART initiation. Three patients received efavirenz based ART, 2 on dolutegravir based ART, and 1 patient switched to lopinavir/ritonavir based ART due to efavirenz allergy. Currently, three patients have transitioned to adult integrated HIV center.

Conclusion: Efforts should be made to detect high risk behaviors to prevent horizontal HIV transmission. Adolescents with comorbidities at high risk of HIV transmission should also be screened for HIV. This report showed that viral suppression was achieved when patients adhered to ARTs.

Keywords: Horizontal HIV transmission, adolescents, high risk behavior.

AI 18

Early Diagnosis and Awareness of Pediatric Steven – Johnson Syndrome as a Key to Maintain Disease Progression and Complication

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Objective: Steven Johnson syndrome (SJS) and Toxic Epidermal Necrolysis (TEN) are a rare and life threatening diasese condition. The symptoms involving skin symptoms including mucosal membranes and systemic symptoms. This disease progression is associated with high morbidity and mortality. Thus early diagnosis and treatment are critical for improving the prognoses.

Case: A six years old boy came to Emergency Room of Wangaya Hospital with high fever and rash at face and body. He has a history of taking paracetamol for fever since 3 days. From the physical examination, it found a macula erythematous at face, chest, both hands and sole. Within less than 24 hours after admitted to hospital, the rash is developed in number and getting more dark red center and slightly pink around, spread to all over body especially at the trunk, palm and sole. Lip mucous appear dry, erythematous and erosion. The penis was found edematous. Diagnosis of Steven Johnson syndrome was suspected. Paracetamol is considered a caused of this condition. Early management was done. The patient condition progression became slower and can be discharged without any serious complication.

Conclusion: Early diagnosis and appropriate treatment has a significant effect of increasing the cure rate and prevent severe complication in children with SJS/TEN.

Keywords: Steven-Johnson syndrome, Toxic Epidermal Necrolysis, early diagnosis, children.

AI 20

Severe Acute Generalized Exanthematous Pustulosis in a-Six-Year-Old Girl: A Case Report

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Background: Acute Generalized Exanthematous Pustulosis (AGEP) is a rare, progressive, severe adverse cutaneous reaction. The estimated incidence is 1 to 5 patients for every one million a year.

Case Report: A 6-year-old girl with down syndrome presented to Harapan Kita National Women and Children Health Center with itchy rashes and fever for 2 days followed by pustules eruption for 1 day. Two days prior, she was brought to a general practitioner because of her fever, and being prescribed paracetamol, dexamethasone, chlorphenamine maleate, and vitamins. She consumed all the medications promptly afterward. Her allergic history was unclear. Physical examination showed eruption of multiple tiny non-follicular pustules with underlying diffuse erythematous macules on the neck, face, flexural regions of limbs, and trunk. One day after admission, non-follicular pustules and diffuse erythema spread widely through her entire body, some parts of the skin and lip mucosal being desquamated, yet the fever persisted. Laboratory tests showed anaemia, leucocytosis, thrombocytopenia, worsened kidney and liver function, and CRP elevation. The AGEP validation score is 8. Diagnosis of AGEP was made. Previously consumed medications were discontinued. Our management included rehydration, oral and topical corticosteroids. On the 12th day, the patient showed clinical improvement with desquamated skin. On the 14th day, the patient was discharged and planned for further examination to find the specific agent causes AGEP.

Conclusion: Clinical manifestations of AGEP can become severe and leads to systemic complication. A detailed medical history and recognition of clinical symptoms are useful to aid in diagnosis.

Keyword: AGEP in Children, drug eruption, rash, corticosteroid.

AI 22

Melena as a Complication of Henoch-Schonlein Purpura in 9 Years Old Boy with Normal USG Abdomen

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Objective: Henoch-Schonlein Purpura (HSP) is an inflammation inside the blood vessels (vasculitis) caused by accumulation of immunoglobulin A (IgA) of the blood vessels that affected damage and appearance of various clinical manifestations.

Case: In this Case, there was a 9 years old boy went to the Emergency Room (ER) with diffuse purpuric and petechial skin lesions as a chief complaint in both of his limbs. It appear since yesterday and getting scattered, followed by pain in his joints and abdominal pain like stabbing. Another complaint, he had was coughing and a fluctuating fever since a week ago. On the day 4 at the hospital, he complained of his stomachache, vomiting more than 8 times and melena. General physical examination in a normal result, but according to localis status of pedis dextra and sinistra, it found purpura eritematous. In the day 7, the abdomen USG finally showing normal result. Given treatment to him is supportive treatment such as rehydration, antipyretic, corticosteroid, and causative therapy for the cause of HSP. Plasma exchange was conducted with transfusion of 300 cc FFP for 3 days because of melena clinical appearance.

Conclusion: In the day 1 when the patient felt pain, strong recommendation to have USG check as soon as possible. The cause of melena on this HSP Case should be detected using another radiology examination, such as CT-Scan or gastroscopy, to determine that surgical intervention is necessary or not. Unclearly cause of the melena can harmful the patient.

Keywords: Melena, Henoch-Schonlein Purpura, Children, Radiology examination.

AI 29

A Rare Case Report of Scleroderma in A 9-Year-Old Girl

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Objective: Scleroderma is a rare inflammatory connective tissue disorder occurring primarily in children aged 2-14 years. Delay recognition and diagnosis may lead to severe cutaneous sclerosis and secondary contractures. Comprehensive therapy consisting of a combination of systemic glucocorticoids and methotrexate and also physiotherapy is crucial to improve the disease progression.

Case: A 9-year-old girl came with complaints of shortening of her left legs since the age of 4 years old. She also had wood-like skin, skin atrophy, and contracture of digiti II pedis sinistra. From laboratory examination, there was a positive ANA test, anti-dsDNA, and rheumatoid factor. From the X-ray film of the extremity, the result showed soft tissue and bone atrophy at the femur, cruris, and pedis sinistra. After six months of therapy with methylprednisolone and methotrexate resulted in improvement and sustainable healing. The wood skin and skin atrophy reduced and the true left limb-length discrepancy become 75 cm which was previously 74 cm (increased 1 cm). From the medical rehabilitation department, the patient got specially modified correction shoes with an insole to support her walking.

Conclusion: Early diagnosis and treatment are crucial to minimize potential sequela in scleroderma. The recommended treatment with the combination of systemic glucocorticoids and methotrexate leads to improve clinical condition and sustained healing.

Keywords: scleroderma, methylprednisolone, methotrexate, children.

AI 33

Lupus Nephritis with Acute Kidney Injury and Hematological Manifestation in A Child: A Case Report

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Background: Systemic lupus erythematosus (cSLE) is characterized by multi-organ involvement with a great variability in disease presentation. This disease has higher disease activity and disease burden compared to adult-onset, leading to increased morbidity and mortality. Furthermore, younger patients are at a higher risk of kidney involvement, which also contributes to increased mortality. This report aims to bring awareness to early diagnosis and treatment of lupus nephritis (LN).

Case: A 16-year-old girl presented with general weakness for the last month and appeared pale. She also felt joint pain and recurrent fever accompanied by malar and discoid rashes on her face. Vital signs were within normal limits except for a temperature of 37.7°C. Her conjunctiva was anemic and extremities appeared pale. Laboratory results showed hemoglobin levels of 5.7 g/dL, hematocrit 14.7%, leukocytes 2,400/mm^3, platelet 89,000/mm^3, CRP 24 mg/dL, urea 33 mg/dL, and creatinine 1.3 mg/dL. Urinalysis showed proteinuria and hematuria. Based on the 2019 ACR criteria and SLEDAI-2K scores, she was diagnosed with LN with acute kidney injury, and was treated with intravenous fluids, corticosteroid, immunosuppressive and supportive therapies.

Conclusion: The clinical manifestations of LN are often subtle and most commonly will be discovered by examination of the urine as opposed to physical examination. In this patient, we diagnosed lupus nephritis because her urinalysis showed proteinuria, hematuria, and impaired kidney function. Accordingly, we treated the patient with methylprednisolone since lupus nephritis is the leading cause of morbidity in SLE patients and should be treated with induction and maintenance mycophenolate mofetil therapy.

Keywords: lupus nephritis, acute kidney injury, systemic lupus erythematosus.

AI-2-04

Exploring Anaphylaxis Through a Case Series Analysis: Unveiling Patterns and Insights

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Allergy and Immunology Division, Department of Pediatrics, Medical Faculty of Indonesia University, Cipto Mangunkusumo Hospital, Jakarta

Background: Anaphylaxis, a severe and potentially life-threatening hypersensitivity reaction, represents a critical challenge in clinical practice due to its rapid onset and unpredictability. Several conditions might mimic anaphylaxis and potentially cause delay in diagnosis and treatment. By collating individual Cases, we aimed to identify commonalities, deviations, and patterns of anaphylaxis Cases in our center.

Case description: During the period of 2022 to mid-2023, there are 20 reported Cases of anaphylaxis in the Pediatric Ward of Cipto Mangunkusumo Hospital, aged between two to sixteen years old (10 boys, 6 girls). Sixteen Cases of true anaphylaxis and four misdiagnosed as a spectrum of anaphylactic reaction (septic shock, severe asthma exacerbation, angioedema, and scombroid reaction) were reported. The respiratory (13/16) and mucocutaneous (12/16) were the most common organ systems involved, while only two have gastrointestinal manifestation. The main causes of anaphylaxis are blood products, antibiotics, and chemotherapy agents. All Cases are managed with intramuscular injection of epinephrine, three Cases needed extra doses of epinephrine injection. Two Cases were given higher than 0.3 mg epinephrine, nonetheless none was fatal and all Cases showed improvement of symptoms with zero mortality. Three Cases were recurrent Cases of anaphylaxis, five patients had previous history of allergic reaction.

Conclusion: A thorough evaluation of clinical signs in multiple organs is compulsory to confirm a diagnosis of anaphylaxis. However, alternative diagnosis should be considered, if signs and symptoms are unclear and unresponsive to treatment.

Keywords: anaphylaxis, shock.

AI 12

Case Report: HIV- Associated Miliary Tuberculosis Co-infection in Children

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dr. Zainoel Abidin General hospital, Banda Aceh, Indonesia

Background

Tuberculosis is one of opportunistic infections that affect morbidity and mortality in people with HIV and AIDS. The World Health Organization estimates HIV prevalence among children with tuberculosis in range 10-60%. Milier tuberculosis is a type of tuberculosis that is more at risk for children with HIV. Tuberculosis in children and HIV have overlapping clinical manifestations that can lead to misdiagnosis or delay in diagnosis which is a major problem in treatment.

Case report

A 13 year-old boy presented to the hospital with dypsneu since 3 days. Hemoptoe and subfebrile for 1 month with weight loss. No immunization history. TB score 7, tuberculin skin test positive, gen expert MTB negatif. Blood examinations showed leucocytosis and ESR increased. Chest x-ray showed numerous small nodular opacities 1-3 mm both lungs like Miliary Tuberculosis. The patient's mother had a history of pulmonary TB and AIDS and was died. Patient was diagnosed with HIV one year ago by testing HIV antibodies three times with impression of being HIV reactive but the patient's family refused to be given therapy at that time. The viral load 89,910 copies/ml, CD4 25 cells/U and will be evaluated every 6 months. Patients were given antiretroviral therapy (Zidovudin, Lamivudin, Efavirren), Cotrimoxazole, anti tuberculosis and adequate nutrition.

Conclussion

The diagnosis of HIV-infected children with tuberculosis is very difficult, so routine TB screening must be an important part of the diagnostic results for every HIV-infected child. Anti tuberculosis regiment must be given immediately when patient with HIV infected had diagnosed with tuberculosis.

Keywords : HIV, Miliary TB, Co-infection, Children

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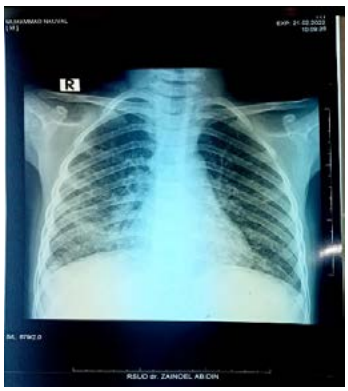
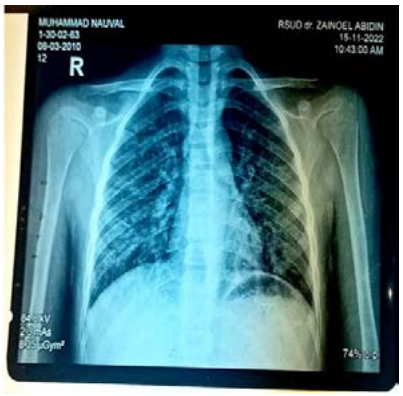
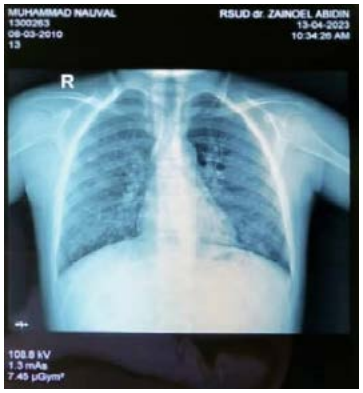


Thorax X-Ray
February 21st 2022



Thorax X-Ray
November 15th 2022



Thorax X-Ray
April 13rd 2023

CD4 Evaluation

Date	**Feb 21th 2022**	**August 15th 2022**	**February 13rd 2023**
CD4	25 Cells/U	56 Cells/U	92 Cells/U

AI 19

Case Report : Chronic Bullous Disease in Childhood

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2. Dermatology and Venereology Departement, Faculty Medicine , Syiah Kuala University, dr. Zainoel Abidin hospital, Banda Aceh, Indonesia
3. Pathology Anatomy Departement, Faculty Medicine , Syiah Kuala University, dr. Zainoel Abidin hospital, Banda Aceh, Indonesia

Background

Chronic bullous disease of childhood (CBDC) is a rare vesiculobullous disease idiopathic founded primarily in children under five years of age, triggered by several risk factors, such as infection, drugs, and can be associated with other systemic diseases. This disease is an IgA-mediated disorder which IgA deposition in the basement membrane zone activates neutrophils and causes chemotaxis, exacerbating loss of adhesion at the dermis-epidermal junction and leading to vesicle or bulla formation. The clinical presentation is characterized by tense bullae with an inflammatory base in the perioral and perineal areas with itching and burning of the skin near the lesion.

Case report

A 3-year-old boy has been admitted to the RSUDZA hospital with blisters with intermittent itching of the lesions. that have spread over most of his body for the last three weeks and have been recurent two times in the last 1 year. Dermatologic status of the face, thorax, abdomen, and superior and inferior extremities bilaterally showed erythematous and hyperpigmented macules, vesicles to bullae, erosions, crusts, scales and general distribution. IgA examination could not be carried out because the family refused it. Histopathologycal examination supports the impression of chronic bullous disease. The systemic antibiotic therapy of a single antibiotics macrolide, antihistamine, steroids at a dose of 1 mg/kg/day and the mupirocin an NaCl 0,9% to compress the erosion wound was given. The patient improves clinically.

Conclusion

Direct immunofluorescence examination of the perilesional skin with the characteristic of tense bullae surrounded by squomous is used to diagnose CBDC. After direct immunofluorescence, histopathological investigation is the gold standard. The results showed tissue preparations with stratified squamous epithelium, subepidermal blisters throughout, and fibromyxoid tissue with lymphocytic infiltration. A positive prognosis for the patient can be achieved with early diagnosis and therapy.

Keywords : *Chronic Bullous Disease in Childhood*, idiopathic, Ig A, histopathologycal

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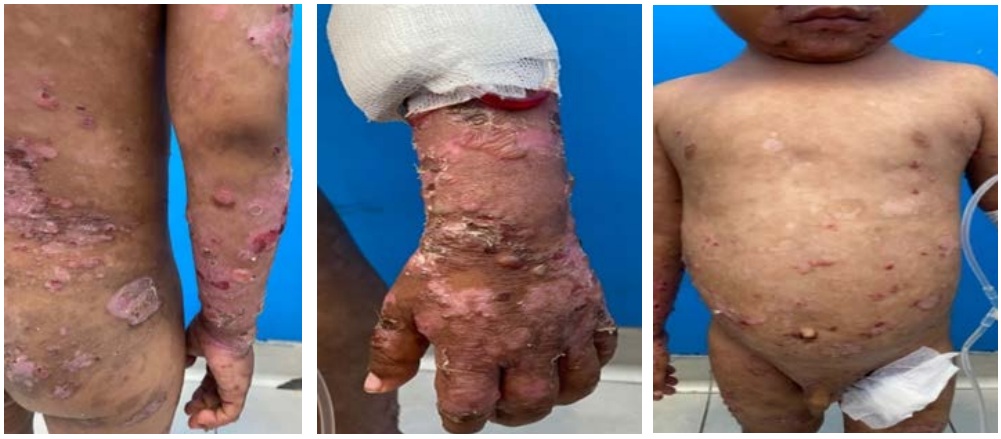
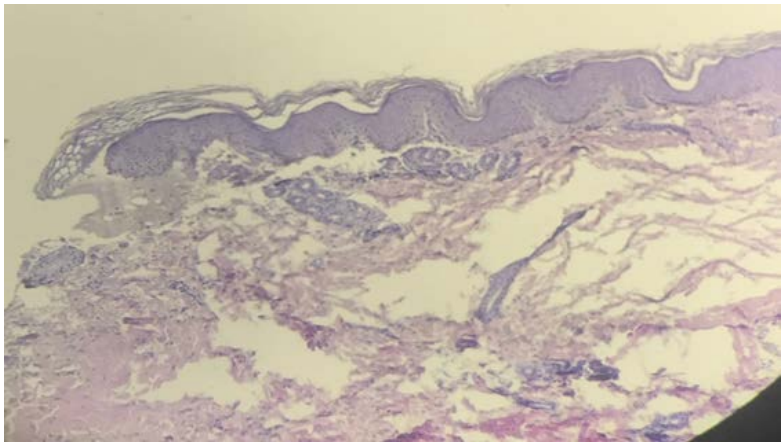
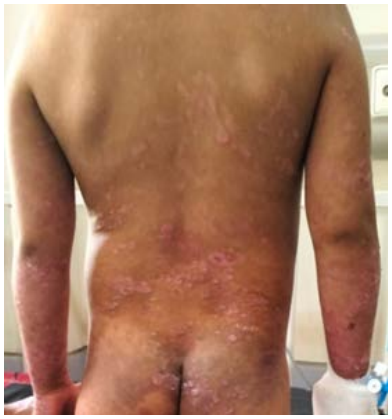
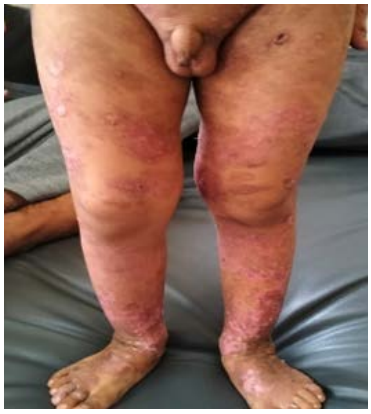


Clinical signs in 1st day before treatment



Histopatology : Supraepitelial with fibromiksoid and limfosit randomised





Clinical signs after 7th treatment

AI 13

Full Blown Systemic Lupus Erythematosus and Lung Tuberculosis with Reactive anti HIV Immunoserology as a Result of Autoantibody Cross Reaction

Melati Arum Satiti

Soedono Provincial Hospital Madiun

Background
Both systemic lupus erythematosus (SLE) and human immunodeficiency virus (HIV) infection have similar nonspecific, constitutional symptoms. Moreover, SLE may lead to false positive anti–HIV screening test due to the presence of autoantibodies. Tuberculosis (Tb) infection and SLE may also cause low level of CD4. The Objective is analizing full blown SLE and Lung Tuberculosis (Tb) with false positive anti–HIV immunoserology.

Case
A 15 years old girl came with fever, weight loss, change of behaviour, generalized skin rash, weakness of upper and lower extremities which made her fully bedridden for 3 months. She complained of dyspnea followed by persistent cough with yellowish mucous for 2 months and history of close contact with Tb patient. Her blood work showed very high serum glutamic oxaloacetic transaminase (SGOT) and erythrocyte sedimentation rate (ESR) with low hemoglobin, albumin and sodium. Echocardiogram presents heart failure with chest X–ray of multiple consolidation. Two out of 3 anti–HIV screening test appeared reactive with CD–4 level was low and her ANA tes was 1:1000. She was treated with high dose methylprednisolone and slowly recovered.

Conclusion
A very thoughtful decision making in choosing medical treatment is highly needed in SLE patients with Tb infection who has reactive anti–HIV screening test. Steroid should immediately commenced especially when anti–retroviral treatment did not show any improvement.

Keywords
Cross reaction autoantibody, false positive anti HIV, human immunodeficiency virus, lung tuberculosis, systemic lupus erythematosus.

IMAG 01

Scrotal Ultrasonography Features of Testicular Adrenal Rest Tumors in Male Congenital Adrenal Hyperplasia Patients: A Systematic Review

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Background: Testicular Adrenal Rest Tumors (TART) is one of the complications in male Congenital Adrenal Hyperplasia (CAH) patients that need early detection using scrotal ultrasonography. This systematic review aims to provide an up-to-date summary of the current understanding of scrotal ultrasonography features of testicular adrenal rest tumors in male congenital adrenal hyperplasia patients to help medical professionals diagnose TART in male CAH patients.

Methodology: A systematic review was conducted using the PRISMA methodology. The authors searched for studies through PubMed from the last ten years until August 2023. Male CAH patients diagnosed by clinical and hormonal examination or genetic analysis with at least one of the features of TART in scrotal ultrasonography were included.

Results: This systematic review involved fourteen studies that were classified into retrospective cohort study (n=5), cross-sectional study (n=4), and prospective cohort study (n=5). The total number of participants from fourteen studies was 597 patients, and 186 patients were found to have TART (31.16%). Studies showed that bilateral lesions (78.49%), lesions located near the mediastinum testes (92.2%), hypoechoic (81.94%), clear border (76.74%), round to oval lesions (44.44%, 55.56% respectively), and hypervascular (69.39%) in color doppler ultrasound were found in male CAH patients with TART.

Conclusion: Scrotal ultrasonography features of TART in male CAH patients were primarily bilateral, located near the mediastinum testes, hypoechoic, clear border, round to oval shape, and hypervascular in color Doppler ultrasound.

Keywords**:** Testicular Adrenal Rest Tumors

IMAG 02

Contrast Meal in Children with Duodenal Stenosis

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Background: Duodenal stenosis in pediatric, causes an incomplete intestinal obstruction with a more indolent and varying clinical presentation thus making it a diagnostic challenge. Incidence of duodenal stenosis remains unknown, estimated incidences of 1 in 10,000 live births. Ultrasound has a relatively high capability in locating atresia/stenosis. However, some Cases are misdiagnosed. In clinical practice, contrast meal should be used complementarily during diagnosis.

Case :
A 13 months old boy, admitted to RSCM with a chief complaint of recurrent vomiting. History taking, physical examination and supporting examinations of blood tests were performed, and patient was diagnosed as GERD. The patient was given therapy with proton pump inhibitor. The impression of management was still inadequate, then contrast meal was conducted and revealed dilation of the duodenal bulb with an abrupt narrowing at the second portion of duodenum. Patient undergo a surgery and found stenosis of the second portion of the duodenum.

Conclusion :
Considering the vague and nonspecific clinical presentation of infants with duodenal stenosis, even for the experienced clinician, this can prove to be a diagnostic challenge. Contrast meal is a highly recommended to detect a malformation in gastrointestinal system. It has the advantage of being a safe, non-invasive, and accurate evaluation.

Keywords: Contrast meal, pediatric, duodenal stenosis, vomiting, obstruction

IMAG 04

Neonatal Cranial Ultrasound Findings in Holoprosencephaly: A Case Report

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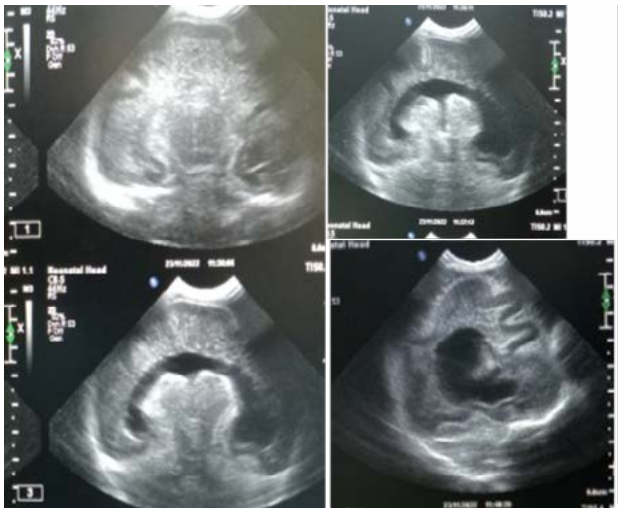
Pediatric Imaging Division, Department of Child Health, Faculty of Medicine Universitas Indonesia, Cipto Mangunkusumo Hospital, Jakarta, Indonesia

Background: Holoprosencephaly (HPE) is the most frequent malformation of the prosencephalon which presented the abnormal structure of the frontal lobes and craniofacial defects. Incidence of HPE is estimated at the maximum of 1-2 Cases per 10.000-20.000 birth and one Case per 250 spontaneous abortions. Holoprosencephaly can be present either sporadically or have a syndromic association. This disorder is either incompatible with life or infants will suffer from varying grade of mental retardation. A diagnosis can be established prenatally using an ultrasound as early as the first trimester for severe Cases, but in developing countries as Indonesia, the diagnosis is commonly found at post-natal period with cranial ultrasound.

Case: A female baby presented with facial dysmorphism in prenatal ultrasound was born at 38 weeks gestational age by a 36-year-old first-time mother. Clinical presentations after birth showed nystagmus, hypertelorism, microcephaly, cleft lip, and cleft palate. She also had generalized seizure during hospitalization. Laryngoscopy found type 3 laryngomalacia. Neonatal cranial ultrasound showed fused cerebral hemispheres, fused thalamic nuclei, a single-ventricle with major dilatation of the 4th cerebral ventricle, and no formation of 3rd ventricle in concordance with semi-lobar holoprosencephaly. She was arranged to take chromosomal and genetic testing to confirm the diagnosis, but the assays could not be done for cost-deprived.

Conclusion: Evaluation of holoprosencephaly can take place as early as the prenatal period. Neonatal cranial ultrasound can confirm the findings in prenatal ultrasound and clinical pictures. Once the diagnosis is confirmed, the patient is evaluated for a syndromic association and genetic testing.

Keywords: Holoprosencephaly, Neonatal Cranial Ultrasound



IMAG 06

Type III Osteogenesis Imperfecta in Neonate

Eka Yusuf Inrakartika, Haryanti Fauzia Wulandari

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Objective: Osteogenesis Imperfecta (OI) is a long-life condition, a genetic disorder of connective tissues caused by an abnormality in the synthesis or processing of type I collagen. It is characterized by an increased susceptibility to bone fractures and decreased bone density. Osteogenesis Imperfecta is a rare disease occuring in 1 in 15,000 to 20,000 births. The exact incidence of types III and IV is not known, although their incidence is much less than type I.

Case: A 41-weeks pregnant woman referred to Cipto Mangunkusumo General Hospital with fetomaternal ultrasound result suspected of fetal osteogenesis imperfecta. Caesarean section was performed, a baby girl of 40 weeks of gestational age with low birth weight 1870 grams was born. Physical examination revealed: deformity on skull, fontanella was dificult to evaluate, no blue sclera on both eyes, and leg length discrepancies. Babygram showed no wormian bone on skull, multiple fractures of ribs, accordeon appereance/deformities in the long bones, metaphysis dilatation on short bones, and organomegaly, which were in accordance to OI.

Conclusion: Babygram or bone survey can be used to diagnose OI, supporting the fetomaternal ultrasound result, and determine the degree of OI.

Keyword: decreased bone density, multiple fractures, neonate, Osteogenesis Imperfecta.

IMAG 07

The Role of Ultrasound in The Diagnosis of Juvenil Myometrial Cyst

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Objective: Myometrial cysts are cysts seen in the myometrium. Juvenil myometrial cysts are rare benign lesions that can occur in young women. They are usually asymptomatic and detected incidentally on ultrasound. Ultrasound is widely available, inexpensive, and can provide real-time information. The gold standard for diagnosing juvenil myometrial cysts is histopathology of the uterine specimen.

Case: A 17 years old girl was referred to Cipto Mangunkusumo Hospital because of abdominal pain, vomiting, and weakness. After being treated for almost 2 weeks, the patient complaints of abdominal pain are still there. At that time, the patient complains of menstrual pain. The patient consulted to Pediatric Imaging Division, Department of Child Health. From Ultrasound examination of the abdominal and pelvic shows kolelitiasis and soliter myometrium cyst. Small cysts lined by endometrial epithelium and surrounded by smooth muscle 2,7x 2,9 x 2,8 cm.

Conclusion: In most Cases, the treatment for a myometrial cyst is determined by its size, location, and the symptoms that it induces. Using magnetic resonance imaging or pelvic ultrasonography, myometrial cysts can be identified.

Keywords: Myometrial, kolelitiasis.

IMAG 12

Radio-imaging of a Child with Cervical Tuberculosis: A Rare Case Report

Winda Haryati Pratama, RM Faisal, Indra Saputra, RM Indra, Azwar Aruf, Anugerah Onie Widhiatmoko

Department of Pediatric, Department of Radiology, Department of Surgery, Faculty of Medicine, University Sriwijaya, Mohammad Hoesin Hospital, Palembang, Indonesia

Background: Cervical tuberculosis is a rare type of spinal tuberculosis, with an incidence of approximately 2-3%. This disease is more destructive in children than adults and occasionally undiagnosed when relying on clinical and microbiology examinations alone. Radiologic imaging plays an important role in diagnosing cervical tuberculosis.

Case: A 16-year-old female was admitted with weakness in all four extremities. The initial symptoms were difficulties, pain, and stiffness in neck movements that started about five months before admission. Over the following months, there was a gradual weakness of extremities that started on the right side and then on the left side. She had severe headaches one month before admission, and the weakness worsened. Cranial CT scan showed no brain lesion, but a cervical MRI and CT scan showed destruction and pathological fracture of the atlas bone with anterolateral listhesis and retropharyngeal lesion with a size of 2.2 x 0.9 x 1.8 cm at the height of C2-C3 and ring enhancement. The patient was admitted to PICU after decompression of foramen magnum and later developed hydrocephalus, and PCR examination of the CSF specimen was positive for Mycobacterium tuberculosis.

Conclusion: Spinal TB should always be suspected when radiographs demonstrate a destructive spinal process. Based on evidence-based imaging algorithms for extra-thoracic TB, it is recommended to use MRI scanning that provides better tissue differentiation. A CT scan can be considered for evaluation of the bone, especially when there is a pathological fracture and listhesis.

Keywords: cervical tuberculosis, children, CT scan, MRI

IMAG 13

Radio Imaging of Tuberous Sclerosis Complex (TSC), Bourneville-Pringle Disease: A Rare Case Report

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Radiology Department, Mohammad Hoesin Hospital, Palembang, Indonesia

Objective: Tuberous sclerosis complex (TSC), also known as Bourneville-Pringle disease, is an autosomal dominant disorder characterized by the formation of hamartomas in multiple organs. Its incidence is rare but often misdiagnosed. Imaging is an important tool for diagnosis, identifying other organ involvement, and treatment planning. This Case report highlights the radiological findings of a newborn with TSC.

Case: A twenty-four days-old baby came to Mohammad Hoesin Hospital Palembang with a chief complaint of respiratory distress suggestive of congenital heart disease. Echocardiography examination found multiple solid masses varying in size in the left and right ventricles suggesting cardiac rhabdomyoma, which raised suspicion for TSC. A Head CT scan found multiple subependymal nodular calcifications in the subcortical, right, and left frontal lobes, right basal ganglia, and right and left ventricles. The patient had met the diagnostic criteria for TSC. A brain MRI was planned to identify white matter abnormalities but was postponed because the patient was intubated. An abdominal CT scan was also planned to screen for other intraabdominal involvements and to detect liver and renal angiomyolipomas.

Conclusion: Tuberous sclerosis is a multisystemic disorder involving multiple organs. Diagnosis is made based on clinical features and findings on imaging. Cardiac rhabdomyoma, multiple nodular calcifications, and angiomyolipomas can be identified by radio imaging such as CT scans.

Keywords: Pediatric, radio imaging, tuberous sclerosis complex.

IMAG 16

Pediatric Moyamoya Disease A Rare Case of Acute Hemiparesis and Large Cerebral Infarction due to Stenotic of Middle Cerebral Arteries

Melati Arum Satiti, Abdul Rohim

Soedono Provincial Hospital Madiun, East Java

Background
Pediatric Moyamoya disease is a rare and progressive cerebrovascular occlusive disease in children that leads to a compensatory abnormal vascular network at the base of the brain. Its annual incidence 0.54 per 100,000 population. The Objective is analizing a rare Case of pediatric moyamoya disease in infant.

Case
A 3 years old boy with first sudden onset of right–sided hemiparesis, decrease of consciousness and loss the ability to speak. There were no fever or any sign of infection. His previous medical history was unremarkable and no family history of similar illness. His immunization history was never absent. His blood work, chest x–ray, electrocardiogram and echocardiography were within normal limit. His brain CT–Scan showed large brain infarction of left temporoparietal. His Brain magnetic resonance imaging (MRI) showed subacute thromboembolic cerebral infarction with luxury perfusion on left temporal. His Brain magnetic resonance angiography (MRA) showed stenotic of M1, M2 and M3 of left middle cerebral artery (MCA). He was referred to neurosurgeon and scheduled for brain surgery.

Conclusion
It is recommended to perform a follow up of MRA in an infant with hemiparesis and large brain infarction if Moyamoya disease was the main differential diagnosis.

Keywords
Brain infarction, hemiparesis, magnetic resonance angiography, moyamoya disease, stenotic middle cerebral artery.

IMAG 17

Vertebral Intradural-extramedullary Haemangioma Diagnosed by Ultrasound in an Infant with Multiple Congenital Anomalies: A Case report

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Pediatric Imaging Division, Department of Child Health, Faculty of Medicine Universitas Indonesia - Cipto Mangunkusumo Hospital

Background
Vertebral intradural extramedullary capillary hemangiomas are extremely rare. This Case report describes the vertebral ultrasound findings in a patient with multiple congenital anomalies one of it represents as vertebral intradural-extramedullary haemangioma.

Objective
To describe the advantages of ultrasound examinations in vertebral anomalies in infant especially vertebral intradural-extramedular haemangioma.

Case Presentation
We report a Case of vertebral intradural-extramedullary haemangioma in a 1 – month – old baby girl who presented with multiple congenital anomalies such as hydrocephalus with lobar holoprosencephaly, labioschisis and claw hand. Born at 34 weeks, weighing 1520 gram, by cesarean section due to multiple congenital anomalies the baby was well appearing, with no hypotonia, nor other neurological signs and symptoms. Physical examination showing no mass or dimple or lesion in vertebral area. Ultrasound examination of vertebrae was done routinely for multiple congenital anomalies screening, showing a heterogeneous intradural extramedullary mass with anechoic areas in the form of vessels as high as the L2 – S5 vertebrae, we determined it as vertebral intradural-extramedular haemangioma. Early recognition is important because of the risk of hemorrhage, which may produce sudden neurologic deterioration with associated hematomyelia or subarachnoid hemorrhage, myelopathy or radiculopathy. Cauda equina was difficult to evaluate. The conus medullaris was located at the L2-3 vertebrae.

Conclusion
Ultrasound is a non- invasive examination without radiation, easy and safe as initial modality to evaluate vertebral anomalies. Vertebral intradural-extramedullary haemangiomas are extremely rare and can be found with ultrasound. However Magnetic resonance imaging (MRI) must be done to confirm the diagnosis.

Keywords: Vertebral Ultrasonography

IMAG 11

Serial Cranial Ultrasound of Term Neonate with Hypoxic Ischemic Encephalopathy: An Irreversible White Matter Injury

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Background : Neonatal hypoxic-ischemic encephalopathy (HIE) is a significant contributor to cerebral palsy (CP) and severe neurological deficits in children. Asphyxia, arising from various underlying conditions, stands as the primary risk factor for HIE. Cranial ultrasound (CUS) emerges as the preferred initial diagnostic modality for suspected neonatal HIE Cases due to its remarkable sensitivity in detecting intracranial hemorrhage, hydrocephalus, and cystic periventricular leukomalacia (PVL). The ensuing pattern of brain injury is intricately influenced by the severity and duration of hypoxia, along with the degree of brain maturation.

Case : In this Case study, a 2-hour-old male infant was admitted for respiratory failure following a spontaneous vaginal delivery at 38 weeks of gestation. Despite limited prenatal care and a history of prolonged stage 2 labor, the infant exhibited poor Apgar scores, inadequate respiratory efforts, and lethargy, necessitating prompt medical attention. Initial evaluation employing the Thompson score revealed mild hypoxic-ischemic encephalopathy, prompting therapeutic hypothermia to mitigate ensuing brain injury. Despite intervention, the patient's clinical state deteriorated, marked by recurrent seizures, status epilepticus, and spasticity in all extremities. Serial CUS assessments revealed evolving cerebral abnormalities, including hyperechoic lesions, ventriculomegaly, and cystic changes across distinct brain regions.

Conclusion : This Case underscores the role of HIE in neonatal morbidity and mortality. The significance of early diagnostic imaging, notably CUS, can facilitates timely intervention, ultimately ameliorating the severity of neonatal brain injury and potentially enhancing patient outcomes.

IMAG-2-01

Contrast Meal in Children With Duodenal Stenosis

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Background: Duodenal stenosis in pediatric, causes an incomplete intestinal obstruction with a more indolent and varying clinical presentation thus making it a diagnostic challenge. Incidence of duodenal stenosis remains unknown, estimated incidences of 1 in 10,000 live births. Ultrasound has a relatively high capability in locating atresia/stenosis. However, some Cases are misdiagnosed. In clinical practice, contrast meal should be used complementarily during diagnosis.

Case :
A 13 months old boy, admitted to RSCM with a chief complaint of recurrent vomiting. History taking, physical examination and supporting examinations of blood tests were performed, and patient was diagnosed as GERD. The patient was given therapy with proton pump inhibitor. The impression of management was still inadequate, then contrast meal was conducted and revealed dilation of the duodenal bulb with an abrupt narrowing at the second portion of duodenum. Patient undergo a surgery and found stenosis of the second portion of the duodenum.

Conclusion :
Considering the vague and nonspecific clinical presentation of infants with duodenal stenosis, even for the experienced clinician, this can prove to be a diagnostic challenge. Contrast meal is a highly recommended to detect a malformation in gastrointestinal system. It has the advantage of being a safe, non-invasive, and accurate evaluation.

Keywords: Contrast meal, pediatric, duodenal stenosis, vomiting, obstruction

RES 09

Pediatric Pulmonary Case Report: Pyothorax with Fistula as Side Effects of Azathioprine Therapy as Immunosupressive Agents in Guillain-Barre Syndrome (GBS)

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Background: Guillain-Barre Syndrome showed a strong relationship of inspiratory and expiratory muscles weakness. Azathioprine was one of the immunosuppressive agents used as a treatment for these Cases. In several instances, these immunosupressive agents were related with pulmonary issues. Various clinical manifestations, like pulmonary nodules or defects in pulmonary structures progressed to conditions such as empyema, pleural effusion, or pulmonary fibrosis before fistula formation occured. This Case report will discuss about pyothorax with fistula in GBS Cases treated with the immunosuppressive agent, Azathioprine.

Case: A 17-year-old female was diagnosed with GBS, presenting symptoms of ascending motor weakness and areflexia. A history of upper respiratory infection was confirmed and treated. Upon admission, neurological examination revealed a decrease in motoric functions. Intravascular immunoglobulin was administered for five days, followed by azathioprine. During the course of treatment, the patient was observed with dyspnea, leading to intubation. A chest X-ray identified pleural effusion and asymmetrical diaphragm arch. The patient underwent thoracotomy, and the post-operative diagnosis indicated pyothorax with fistula in the right hemithorax.

Conclusion: Pulmonary toxicity resulting from azathioprine treatment in GBS is a rare side effect, encompassing a diverse range of pulmonary manifestations, including opportunistic infections, pulmonary vasculitis, bronchiolitis, fibrosing alveolitis, and eosinophilic pneumonia. Immunosuppressive agents predispose individual to recurring viral or other microbiological infections, and they can also cause damage to alveolar epithelial walls, suggesting a direct drug-induced toxicity mechanism. Further investigations are necessary to comprehend the relation between immunosuppressants, pulmonary problems, and formation of bronchopleural fistulas in post-operative medical condition.

Keywords: Azathioprine, Guillain-Barre Syndrome, Immunosuppressive agents, Pulmonary Side Effects, and Pyothorax with fistula.

RES 08

Not All Miliary Nodule Pattern is Tuberculosis: A Case Report

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Objective: Miliary Tuberculosis (TB) is a life-threatening condition and should be treated aggressively. Since Indonesia is a high burden TB country, it is imperative to make presumptive diagnosis of miliary TB once we found miliary pattern in chest x-ray.

Case: An 8-year-old boy, was consulted to the respirology department with complaints of not gaining weight for two years. An integrated workup for tuberculosis was carried out for patient which consist of: GeneXpert® sputum, chest x-ray, tuberculin test, head to toe examination and history of index Cases. Chest x-ray finding support milliary tuberculosis and from physical examination we found multiple lymph nodes enlargement in neck bilaterally. Therefore, we initiated anti-tuberculosis treatment. However, the tuberculin test was negative and no mycobacterium was detected in GeneXpert®. We consult the patient to pediatric surgeon department to undergo lymph node biopsy while continuing anti-tuberculosis treatment. Histopathological result suggested papillary thyroid carcinoma metastases as the etiology of lymph node enlargement. As we know that metastases of papillary thyroid carcinoma could also present in milliary pattern in chest x-ray, we stop anti-tuberculosis treatment.

Conclusion: Although it is imperative to make presumptive diagnosis of miliary TB once we found miliary pattern in chest x-ray, let us be mindful there are other diseases that present with milliary pattern nodules in chest x-ray.

Keywords: milliary tuberculosis, papillary thyroid carcinoma, chest x-ray.

RES 05

Idiopathic Bronchial Varices as A Rare Cause of Recurrent Hemoptysis

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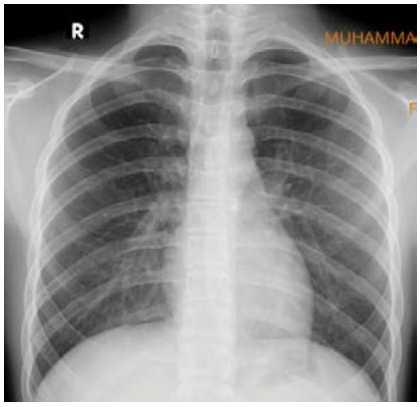
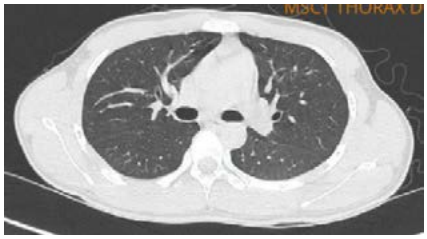
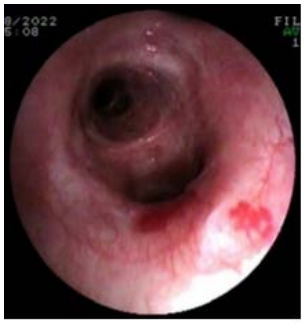
Background: Hemoptysis is a symptom that's often encountered in many clinical settings. Bronchial varices are abnormally dilated veins that develop through collateral channels between the esophageal and tracheal venous systems. At present, data on bronchial varices are still scarce, and in the pediatric population, this condition has only been reported in children with congenital heart defects or bronchopulmonary dysplasia that cause pulmonary vein obstruction.

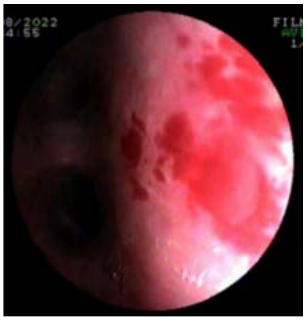
Case: A 16-year-old boy presented to the pediatric clinic with recurrent hemoptysis. Laboratory examination showed normal hemoglobin, leukocyte, and thrombocyte counts; slight eosinophilia; and normal coagulation parameters. IGRA and MGIT cultures were negative. Chest radiography revealed a normal lung and heart configuration. Echocardiography revealed a heart that was structurally and functionally normal. Thoracal MSCT revealed multiple lymphadenopathies in the right paratracheal and left infraclavicular areas. Thoracal MSCT angiography showed neither thrombus nor stenosis in the arterial system. Bronchoscopy showed hypervascularization of the epiglottis, trachea, and bilateral bronchus; bronchial varices in the left bronchus without active bleeding. He was diagnosed with left bronchial varices, and his symptoms improved with anti-tussive therapy to suppress the cough.

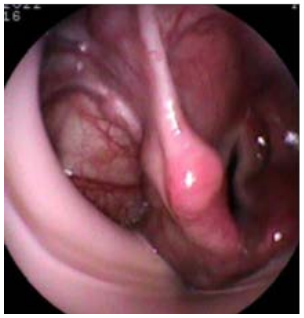
Conclusion: Bronchial varices should be considered one of the causes of recurrent hemoptysis in children. Bronchoscopy could be a useful modality for detecting endobronchial lesions, including subtle localized bronchial hyperemia.

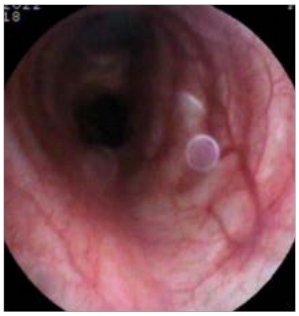












Keywords: bronchial varices, recurrent hemoptysis, bronchoscopy.

RES 30

The Importance of Early Detection of 7 Months Infant with Miliary, Meningoencephalitis, Multidrug-Resistant Tuberculosis (MDR-TB) : A Case Report

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Background :
Multidrug-Resistant TB (MDR-TB) is the biggest problem in eradication TB in the world. MDR-TB in Indonesia is ranked 8th in the world. MDR-TB is health threat to children because it requires long-treatment time, costs more, and has serious effects. However, only 4% are diagnosed and treated, 21% of children die. Sources of TB transmission in children are adults with active TB and close contacts. Early detection and treatment of MDR-TB in children is the key to preventing morbidity and mortality. Household contact investigation is able to investigate 39-50% of MDR-TB children each year.

Case :
A 7-month-old girl was admitted to the ER with tonic seizures, fever, cough with phlegm, and shortness of breath. The diagnosis was established based on the chest X-ray result which showed of Miliary TB, CT-scan contrast head showed meningoencephalitis, and Xpert MTB-RIF test showed Rif-MTB Resistance Detected. Patients were given aminosteril infusions, epinephrine nebules, pulmicort, combivent, phenytoin, pediatric FDC (Isoniazid, Rifampicin, Pyrazinamide), ethambutol, prednisone, paracetamol, and ceftriaxone. The Mantoux test and tracing of close TB contacts were not carried out because the family refused. In this Case the patient experienced delays in discovery and treatment due to the lack of investigation of household contacts. The patient died after 4 days of treatment.

Conclusion :
The prognosis for MDR-TB depends on the quickness of diagnosis and treatment. The way to prevent MDR-TB is to increase awareness of the risk of spreading MDR-TB through a close contact investigation system, especially in the household.

Keyword : Early Detection, Infant, Miliary, Meningoencephalitis, Multidrug-Resistant Tuberculosis.

RES 69

Corticosteroids for the Prevention and Management of Extubation Failure post Pediatric Cardiac Surgery in Heterotaxy Syndrome Patient

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Background: Heterotaxy syndrome is a condition characterized by abnormal arrangement of thoracic or abdominal organs. Patients with this syndrome often require multi-stage, single-ventricle type operations for long-term survival. Post-extubation stridor, or extubation failure, is a potential complication following cardiac surgery in children with complex congenital heart disease and linked to increased mortality.

Case: An 8-month-old male patient, with a history of recurrent cyanotic spells and pulmonary infections, was admitted to Cipto Mangunkusumo General National Hospital for cardiac repair. The patient was diagnosed with Heterotaxy Syndrome along with multiple cardiac abnormalities and underwent R-BT shunt surgery. Seven days after the operation, the patient was administered of dexamethasone 12 hours prior to extubation and transitioned to a non-invasive ventilator. However, 72 hours after extubation, the patient experienced desaturation and increased work of breathing, leading to reintubation for airway clearance. Arytenoid oedema and subglottic stenosis were identified through rhinopharyngolaryngoscopy. Additionally, a 1-year-old female was diagnosed with Pulmonary Atresia with Ventricular Septal Defect and moderate Patent Ductus Arteriosus. The patient underwent an R-BT shunt procedure and was intubated. Dexamethasone was administered 12 hours before extubation. Stridor was observed in the patient, but improvement was seen after the third day of therapy.

Conclusion: Having a preventive and treatment plan is crucial to reduce the mortality and morbidity rates for heterotaxy syndrome patients following cardiac surgery. The application of corticosteroids in the pediatric population remains a topic of debate. The use of corticosteroids before extubation has been associated with a reduction in post-extubation stridor Cases. However, the effectiveness of corticosteroid administration needs to be adjusted based on the dosage, timing of administration, and clinical findings.

Keywords: Congenital Heart Disease, Corticosteroids, Heterotaxy Syndrome, Post Cardiac Surgery, and Post Extubation Stridor.

RES 24

Good Quality of Life with Left Pulmonary Agenesis after a Ten-Year Follow-Up: A Case Report

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Objective: Pulmonary agenesis is a rare congenital disorder in which the lung parenchyma, bronchi, and vasculature fail to develop. Although patients with isolated unilateral pulmonary agenesis can live normal lives, they remain at great risk of respiratory infections, which account for more than 50% of deaths within the first five years of life. Thus, early recognition and management of unilateral pulmonary agenesis are essential to preserving the single lung.

Case: We present a comprehensive history of a 10-year-old boy with isolated left pulmonary agenesis from birth until the present time. The patient has a history of being hospitalized in the NICU for 10 days due to neonatal sepsis and severe asphyxia. He experienced recurrent respiratory infections until the age of 4 months, which led to the diagnosis finding. Since then, we have been routinely monitoring the patient to ensure that he grows and develops according to his age. Our efforts include finding and treating the source of infection, educating families, and managing proper nutrition. We measured the patient's quality of life using the PedsQL scale. The results show a score of 95.9 for the patient and 83.95 for the parent's proxy.

Conclusion: Although there are no specific guidelines for managing pulmonary agenesis, we observed that a multidisciplinary approach tailored to the patient's needs and conditions results in a lower incidence of respiratory infections and a higher quality of life.

Keywords**:** pulmonary agenesis, recurrent respiratory infections, quality of life

RES 26

Recurrent Spontaneous Pneumothorax in Seven-Months Old Child with Miliary Tuberculosis

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Pediatric intensivist Hermina Hospital Padang

Background: Recurrent spontaneous pneumothorax is a rare but fatal complication of miliary tuberculosis in infants.

Case: A seven months old girl referred to our hospital with inadequate of spontaneous breathing 2 hours prior hospital admission. The patient was intubated indicated the acute respiratory failure. The patient previously had intermittent fever since a month ago followed by coughing since one week ago, also has a close contact with active pulmonary TB patient. Chest radiograph showed features of miliary tuberculosis with secondary pneumonia. Xpert MTB/RIF assay of sputum sample collected via endotracheal tube showed positive result of Mycobacterium tuberculosis and sensitivity of rifampicin.
The fixed drug combination of first line antituberculosis therapy (RHZ) and ethambutol (E) were given alongside prednisone and antibiotics treatment of ceftriaxone and meropenem for co-existing pneumonia. The patient showed improvement after 10 days of therapy, and extubated on 14th day of hospitalization. On day 20 of therapy, patient showed clinical deterioration marked by sudden worsening of breath and loss of breath sounds in the left lung field, confirmed by chest radiograph with spontaneous left pneumothorax and underwent emergency surgery of thoracic drainage (WSD). Later findings showed recurrent spontaneous left pneumothorax even after clinical improvement with drainage insertion, extubation and first WSD closure, resulting an emergency surgery for second chest tube placement. Clinical improvement showed and the patient was discharged.

Conclusion: Pneumothorax is a rare complication of miliary tuberculosis in child but it should be remembered as it can be seen both in early and late periods of treatment.

Keyword: Miliary tuberculosis, Recurrent pneumothorax, Spontan pneumothorax

RES 31

Multisystem Inflammatory Syndrome (MIS-C) and COVID-19 in Children: A Case Report

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Paediatrician, Husada Hospital, Jakarta
Paediatric Respirology, Harapan Kita National Women and Children Health Center, Jakarta

Objective: reminder to always remain vigilant about the Case of multisystem inflammatory syndrome in asthmatic pediatric patient with COVID-19 although the pandemic trend was already lifted and how to handle it.

Case Report: A 3-year-old girl with a positive COVID-19 swab result, admitted to our hospital due to fever, cough and difficulty to breath. CXR showed bronchopneumonia. Her condition was worsening hence admitted at PICU, on ventilator. Treatment was given and she was getting better after 17 days at PICU. Another two consecutive PCR swabs were negative, then discharged on day 24. Two weeks later, she has another episode of fever and dyspnea, thus referred to Harapan Kita National Women and Children Health Center and being hospitalized for 17 days. D-dimer increased (1767.16 ng/mL FEU), blood culture was sterile and thorax CT revealed minimal ground glass opacification. She was given antibiotics and methylprednisolone, and clinically improved.

Conclusion: To diagnose MIS-C, clinical criteria similar to Kawasaki disease are required which were initially made by World Health Organization, then by The Council of State and Territorial Epidemiologists, and Centers for Disease Control such as fever, elevated CRP value, systemic symptoms and presence of COVID-19 antigen within 60 days before, during treatment or close contact with the person with COVID-19 60 days before treatment. Clinicians need to be observant in diagnosing MIS-C so that there are no therapeutic errors that will result in worsening of the patient's condition.

Keywords: *multisystem inflammatory syndrome, MIS-C, COVID-19, paediatric, child.*

RES 61

Ovarian Tuberculosis : An Evidence Based Cased Report

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Objective: Female genital tuberculosis is a part of extrapulmonary tuberculosis that causes infertility in developing countries. Ovarian tuberculosis is one example of female genital tuberculosis. Prevalence data for infertility in female genital tuberculosis is limited. Therefore this study aimed to determine the prevalence of infertility in female genital tuberculosis.

Case: A 16 year old girl came with an enlarged stomach. Hepatomegaly, ascites, and shortness of breath were found in physical examination. A chest X-ray examination showed bronchopneumonia suspected pulmonary metastases, and duplex pleural effusion. Abdominal CT scan showed tuberculous peritonitis and metastatic pulmonary tuberculosis. An exploratory laparotomy, ascites drainage, and left partial oophorectomy were performed. During surgery, miliary nodules were found suspicious of peritoneal tuberculosis. The pathology anatomy of the left ovarian tissue biopsy revealed benign, chronic granulomatous inflammation caused by tuberculosis. The patient was treated with antituberculous therapy. Although the condition was improved this patient still has a risk for infertility.

Method: Article searching was completed in Pubmed, Cochrane, and Scopus from June 24-25 2023. The results were limited to systematic review, meta analysis and clinical trial study and were evaluated using inclusion and exclusion criteria. The full text was then obtained and critically reviewed.

Result: Three studies were selected and critically reviewed. The prevalence of infertility in female genital tuberculosis varied from 75.7%-88%.

Conclusion: The prevalence of infertility in women with genital tuberculosis is high. Therefore, prevention and treatment of genital tuberculosis can be considered as a way to reduce the infertility rate.

Keywords : Female Genital Tuberculosis, Ovarian Tuberculosis, Infertility.

RES 67

Respiratory Failure as A Complication of Disseminated Varicella-Zoster Infection

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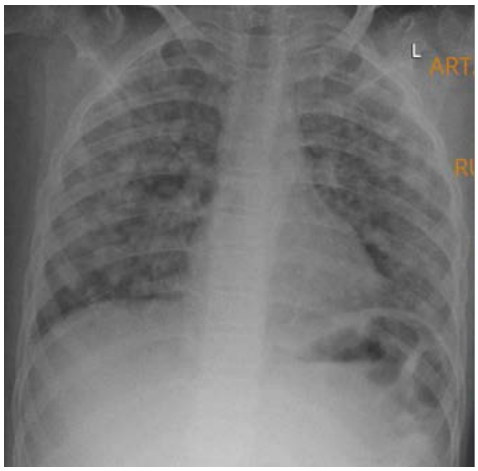
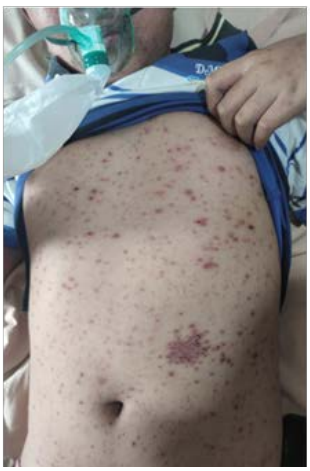
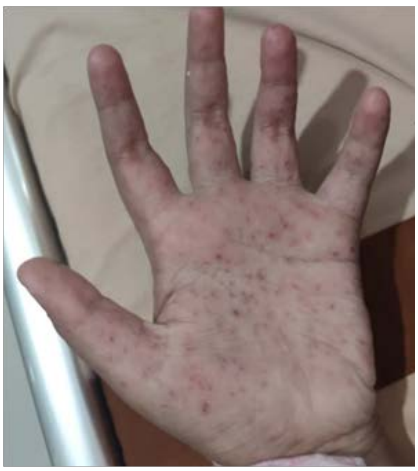
Background: Chickenpox is a common viral infection caused by the varicella-zoster virus (VZV). Varicella is a benign, self-limiting disease in healthy children, whereas VZV infection can be life-threatening in immunocompromised children. Immunocompromised children are at greater risk of suffering from more severe pneumonia, a serious complication that can cause respiratory failure, which directly increases their mortality rates.

Case: An 11-year-old male with acute lymphoblastic leukemia on routine oral chemotherapy with mercaptopurine and methotrexate was hospitalized due to progressive dyspnea. He appeared very ill, with fever, tachypnea with nasal flare and chest indrawing, bilateral crackles on auscultation, and maculopapular-vesicular rash all over the body. Blood gas analysis revealed mixed metabolic and respiratory acidosis with hypoxemia. Chest radiography showed multiple bilateral opacities of small, round, well-defined nodules with regular edges. The patient was clinically diagnosed with disseminated varicella, including pneumonia. The patient was administered intravenous acyclovir and ceftriaxone. The patient subsequently developed severe respiratory failure. However, his family refused intubation, and the patient died five days after hospitalization.

Conclusion: VZV infection can be life-threatening in immunocompromised children. Early intravenous acyclovir administration may have benefits for this population.



Keywords: varicella pneumonia, disseminated, respiratory failure

RES 27

Miliary Tuberculosis in An Unvaccinated Infant Born During Covid-19 Pandemic: A Case Report

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Background: Tuberculosis (TB) is still a global health burden especially in developing countries, like Indonesia. Indonesia occupies second place with the highest number of TB Cases. Throughout 2022, there was a significant increase of TB Cases in children, 110,881 Cases recorded and were dominated by children aged 0-4 years. As many as 22 out of 10,000 of them suffer from both pulmonary and extra-pulmonary TB. The Covid-19 pandemic has lowered national immunization coverage rate and certainly plays an important role in explaining the increased incidence of vaccine preventable diseases.

Case: A 10-month-old unvaccinated boy was referred to our center due to prolonged fever and was suspected a malignancy. He had been suffering from persistent fever for the last 3 weeks with a worsening cough and shortness of breath. He had an unknown history of close contact to a TB Case. On physical examination we found he was febrile (T 39-40^{o}C), tachypnea (RR 70-80 breaths per minute), fine crackles and slight wheezy breath sounds in all over the lung fields. Laboratory findings showed HGB 7.7 g/dL / HCT 24% / PLT 374,000/mm^{3} / WBC 32,230/mm^{3} / CRP 41.5 mg/L / ESR 75 mm/hr. Snowstorm appearance was seen on his chest x-ray, and IGRA test came out positive. We diagnosed miliary TB and nutritional deficiency anemia, treated with RHZE and Prednisone.

Conclusion: The increase of TB Cases in children under 5 years old is certainly a pity. Therefore it is necessary to raise parents' awareness towards the importance of childhood immunization, especially after the pandemic.

Keywords: Unvaccinated, Covid-19 pandemic, Miliary TB.

RES 39

Recurrent Pneumothorax: A Rare Complication in 16-Year-Old Girl with Pulmonary Tuberculosis

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Objective: Pneumothorax can arise as a complication of tuberculosis, whilst infrequent, it can have notable morbidity and mortality. However, recurrent pneumothorax is a rare and challenging complication of pulmonary tuberculosis in pediatric population with very few Cases reported.

Case: A 16-year-old girl with pulmonary tuberculosis was repeatedly hospitalized because of recurrent pneumothorax. First hospitalization, occurring after 5 months of antituberculosis treatment, was due to sudden pneumothorax. On the same day of discharge, she developed recurrent pneumothorax with subcutaneous emphysema. An urgent drainage procedure successfully re-aerated her left lung. After 7 days, the drainage was removed, and she was discharged. Four months later, she was readmitted with worsening dyspnea, productive cough, and intermittent fever. Chest radiograph revealed recurrent pneumothorax on the same side, along with hydropneumothorax. The patient underwent WSD insertion again, but subsequent chest X-rays showed no improvement in the pneumothorax. A non-contrast CT chest scan showed left-sided hydropneumothorax, collapsed left lung, tree-in-bud appearance on the right lung, and consolidation in the left lung, suggesting active pulmonary TB. Pleural fluid analysis confirmed pyopneumothorax. Antituberculosis and additional therapy were administered. Despite the lack of lung aeration improvement, her condition improved with reduced dyspnea. The WSD was removed, and she was discharged with a referral plan to a thoracic and cardiovascular surgery specialist for further management.

Conclusion: Recurrent pneumothorax, although rare, can manifest as a complication of pulmonary tuberculosis. Understanding the underlying mechanism and potential risk factors leading to this complication can contribute to early diagnosis, improved care, and outcomes.

Keywords: Pulmonary Tuberculosis, Pneumothorax, Hydropneumothorax, Pyopneumothorax.

RES 68

Lateral Flow Urine Lipoarabinomannan Assay (LF-LAM) for Diagnosing Active Tuberculosis in HIV Child: A Case Report

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Introduction

Diagnosing tuberculosis in HIV children is challenging due to the paucibacillary nature of tuberculosis in children and high rate of false negative result due to immunosuppression. Lateral flow urine lipoarabinomannan assay (LF-LAM) assay is one of diagnostic test that can be selected to help diagnose active tuberculosis in HIV-positive child.

Case Report

A six-year-old boy with severe malnutrition and HIV, referred to emergency department due to worsening abdominal pain. He was experiencing chronic diarrhea and prolonged fever. He had a complete history of tuberculosis treatment a year ago. Physical examination revealed patient looked pale, positive oral trush, and diffuse abdominal pain. The chest x-ray showed bilateral infiltrates and the abdominal CT-scan showed hepatomegaly, mild ascites, and mesenteric multiple lymphadenopathy sub-centimeter. The Xpert MTB/RIF from sputum and intestinal biopsy both negative.

Both the interferon-gamma release assay (IGRA) and fecal polymerase chain reaction (PCR) tuberculosis result was negative. The histopathology from intestinal biopsy showed inflammatory process not specific to tuberculosis. The urine LF-LAM was positive and patient treated with four-drugs first line antituberculosis treatment (ATT) and azithromycin. The culture for nontuberculous mycobacteria (NTM) was still on going. The patient's condition significantly improved after one month anti-tuberculous drugs and azythromycin treatment.

Discussion

This Case gives us a lesson about the importance LF-LAM as one of diagnostic test for tuberculosis in HIV child. However, NTM was still important differential diagnosis thus need to be excluded.

Keywords

child, HIV, LF-LAM, tuberculosis

RES 70

Bronchoscopy Examination Finding as an Indicator of Empirical Tracheobronchial Fungal Infection Treatment: A Case Report

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Background
Tracheobranchial fungal infection (TBFI) is a severe and life-threatening form of lung infection caused by fungi that infects and confines to the tracheobronchial tree. Bronchoscopy has been found to be a reliable management evaluation modality. We report a Case of TBFI in a pediatric patient, with bronchoscopy as the indicator of treatment.

Case report
An 8-months-old male child with complex congenital heart disease was brought to the hospital with the chief complaint of dyspnea, diagnosed with hospital acquired pneumonia, laryngeal edema and type 1 laryngomalacia. Stridor worsened while the work of breathing improved and his saturation did not reach the target of 80%. Bronchoscopy showed subglottic stenosis and white plaques, which were suspected to be fungal infections in the airways. The patient was then given non-invasive ventilation (NIV), inhaled epinephirine, antibiotic and antifungal intravenously. Clinical improvement, as evidenced by resolution of respiratory distress and gradual regression of pseudomembranous plaques, validated the decision to initiate antifungal treatment. Follow up bronchoscopy showed improvement in the subglottis stenosis, with no more white plaques. There were however granulation tissues that caused obstruction. The patient was further given corticosteroid, which improved his obstruction. After corticosteroid injections, his bronchoscopy only showed scar tissues.

Conclusion
This Case underscores the crucial role of bronchoscopy in diagnosing tracheobronchial fungal infection and guiding empirical antifungal therapy initiation in pediatric patients, particularly those with underlying immunocompromised states. Bronchoscopy, coupled with comprehensive clinical assessment, serves as a valuable tool for clinicians to make decisions regarding empirical antifungal therapy initiation in children suspected of tracheobronchial fungal infections.

Keywords: bronchoscopy, tracheobronchial fungal infection, stenosis.

RES 75

Neutrophil-to-Lymphocyte Ratio Associated with Length of Stay of Severe Pneumonia COVID-19 in Children

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Objective: Neutrophil-to-Lymphocyte Ratio (NLR), is a hematological parameter used as inflammatory marker. Elevated NLR and longer Length of stay (LOS) predicts poor outcome in COVID-19 patients. We analyze the association between NLR and LOS in children with Severe Pneumonia COVID-19.

Methodology: A cross-sectional study of data from 30 medical records of children (1-18 years old) with Severe Pneumonia COVID-19 confirmed by RT-PCR, admitted at Dr Soetomo General Academic Hospital, Surabaya, from October 2022 to June 2023. Severe Pneumonia COVID-19 is characterized by oxygen saturation < 90% on room air or signs of severe respiratory distress. The association of hematologic parameters with LOS less than 5 days (short LOS) and more than 5 days (long LOS) was evaluated by Mann-Whitney U test. Other risk factors were analyzed by Chi square test. The level of significance was p value under 0.05.

Results: The mean age was 4.7 (SD 5.68) years. About 36.7% of the children were under 1 years old, and 63.3% were male. The mean LOS was 9.3 (SD 5.29) days and about 76.7% were hospitalized for more than 5 days. Immunocompromised status and malignancy were 33.3% and 16.7% respectively. The absolute leucocyte count, absolute neutrophil count, percentage of neutrophils in short LOS was higher (p=0.598, p=0.144, p=0.014). The absolute lymphocyte count and percentage of lymphocytes in short LOS was lower (p=0.107 and p=0.069). The NLR in children with short LOS was significantly higher at 5.27 (p=0.025).

Conclusion: High NLR and neutrophil percentage are associated with LOS less than 5 days.

Keywords: NLR, COVID-19, Children, LOS

RES 02

Serious Complication After Adenotonsillectomy in Children with Neurological Disorder: A Case Report of Successful CAPSO Procedure

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Background/Objective: Even though adenotonsillectomy is considered a minor operation, numerous uncommon but severe complications have been described, such as airway obstruction, emphysema, pneumothorax and bleeding. The Objectives of this report is to raise awareness of serious complication following adenotonsillectomy in children with neurological disorder and demonstrate the efficacy and safety of cautery-assisted palatal stiffening operation (CAPSO) in pediatric population.

Case: A 7-year-old boy, diagnosed with cerebral palsy since 6 months old, with history of recurrent tonsillitis and obstructive sleep apnea. Rhinopharyngolaryngoscopy reveal hypertrophy of adenoid and tonsils, patient was planned underwent adenotonsillectomy. Initially He is expected to undergo one day care surgery, however He experienced stertor, inspiratory stridor and marked dyspnea post extubation requiring high flow nasal oxygenation persisting until a week after surgery. Bronchoscopy was done at day 7 post operative because persistent needs of pressurize oxygenation, revealing severe velopharyngeal insufficiency and tracheomalacia. After careful evaluation, the decision was made to perform a CAPSO procedure. The surgical technique involved suturing the anterior and posterior tonsillar pillars to promote velopharyngeal closure, and airway was secured by nasopharyngeal airway after surgery. Patient exhibited significant improvement after CAPSO, oxygen supplementation was weaned off after 2 days as his breathing improved.

Conclusion: Severe complication of airway following adenotonsillectomy may present in children with neurological disorder. CAPSO is proven to be a safe and effective procedure in alleviating persistent velopharyngeal insufficiency as complication of adenotonsillectomy.

Keyword : OSAS, CAPSO, velopharyngeal insufficiency, adenotonsillectomy

RES 07

Congenital Pulmonary Airway Malformation in A Child With Scleroderma

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Background: Systemic scleroderma is a rarely autoimmune disease characterized by inflammation, endothelial dysfunction, fibroblast dysfunction resulting in excessive collagen production and fibrosis of skin and internal organ, including lungs. Pulmonary arterial hypertension and interstitial lung disease (ILD) are the most common lung involvement. We reported a rare Case of congenital pulmonary airway malformation (CPAM) in a child with systemic scleroderma.

Case: A previously well 8yearold boy was diagnosed as localized scleroderma 2 years ago, based on clinical symptom (thickening and darker skin on abdominal and right leg) and histopathology of the skin. He was treated with methotrexate and methyl-prednisolone (MP) for 6 months, which showed good response. Recently, he presented to the hospital due to fever, skin thickening and coryza for a week. Oral MP was started for flare of the scleroderma. A week later, the patient had tachypnea and chest retraction, which was not improving after 2 weeks antibiotics. Chest X-ray showed minimal lesion of perihilar inhomogeneous opacity of right paracardial (previously normal). Thoracic CT-scan identified type 1 CPAM (multiple cystic in inferior lobe of the right lung and small part of the left lung) with minimal right lung pneumothorax. Laboratory findings showed anaemia. While oral MP is continued for the scleroderma, surgical treatment for CPAM and histopathology of lung tissue is planned to confirm the diagnosis.

Conclusion: The presence of respiratory symptoms in a child with scleroderma should be taken into account for the possibility of the lung involvement, but other lung disorders should also be considered.

Keywords**:** Scleroderma, congenital pulmonary airway malformation, pediatric

RES 17

Predictors of Mortality in Children with Hospital-Acquired Pneumonia at Tertiary Hospital in Indonesia

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Objective: Hospital-acquired pneumonia (HAP) is often associated with the cause of death in children in Indonesia. Understanding the factors that affect the outcome is one of the efforts to reduce deaths from HAP in children in Indonesia. The aim of this study was to determine the mortality rate and predicting factors that influence mortality in children with HAP.

Methodology: Data was collected and reviewed retrospectively from the medical records of patients with HAP in pediatric department in Dr. Cipto Mangunkusumo Hospital in July 2022 until June 2023. Data on the outcome, age group, hospital stay duration, oxygen therapy, hemoglobin, leukocyte, c-reactive protein (CRP), procalcitonin, nutritional status, blood culture, and comorbidity were analyzed.

Results: A total of 205 subjects with HAP were analyzed. The average of hospital stay duration was 26 days. About 68% of the subjects was children under five. Majority (93.7%) of subject had at least one comorbid, mostly immunocompromised condition. Half of subjects underwent blood culture examination, and 33.7% was bacteremia. The mortality rate obtained from this study was 33.7%, with children 5 years and above (OR=0.5, CI=0.24-0.83, p=0.01) and high flow oxygenation (OR=2.92, CI=1.3-6.6, p=0.008) becoming predicting factors shown to be associated with mortality outcome. Whereas, malnutrition, anemia, leukocytosis, elevated CRP, elevated procalcitonin, bacteremia, and comorbidities were not significantly associated with increased mortality in children with HAP.

Conclusion: The mortality rate of HAP is 33.7%. Children 5 year and older and high flow oxygenation are factors related to mortality in children with HAP.

Keywords: hospital-acquired pneumonia, predicting factors, mortality, children.

RES 62

Bronchiectasis in a Child with Multiple Congenital Anomaly: A Commonly Overlooked Complication

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Background
Bronchiectasis is defined as the presence of abnormal bronchial dilatation on computed tomography (CT) scans, in combination with a clinical syndrome of recurrent or persistent wet/productive cough, airway infection, and/or inflammation infections. It often manifests as complication of recurrent and/or severe pulmonary infection.

Case
A twoyear old girl was admitted to Cipto Mangukusumo National Hospital with shortness of breath, along with fever and cough. She was diagnosed with recurrent pneumonia, work up TB non detected with underlying disease of VACTER syndrome, consisting of ventricular septal defect and anal atresia. Her immunization was incomplete. However, within this year, she had been experiencing four episodes of pneumonia. She also had a recurrent wheezing which didn't respond to bronchodilator. Hence, thorax CT scan was performed, resulting with ground-glass opacity at segment 2,4,6,7,8 of right lung, with dilated bronchus with peribronchial thickening at segment 1,2,3,5,10in both lungs. She was diagnosed with bronchiectasis. Sputum culture was taken, resulted in Eschericha coli and Klebsiella pneumonia. She was treated with antibotic, and long-term macrolide.

Conclusion
Bronchiectasis is a common complication if recurrent pulmonary infection, and should be observed in children with congenital anomaly with recurrent pneumonia. Prevention of pulmonary infection should take place in children with congenital anomaly, in order to avoid bronchiectasis.

Keywords: Bronchiectasis, multiple congenital anomaly, macrolide

RES 33

Pneumonia in Pediatric Patients in dr.Moewardi Hospital Before and During The COVID-19 Pandemic

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2. Department of Microbiology, Faculty of Medicine Sebelas Maret University, RSUD dr. Moewardi Surakarta

Background

Pneumonia, an acute respiratory infection of the Lungs, can occur at any age, but it is more common in younger children. The number of incidents is related to age, sex, type of the causative germs. This study was conducted to find out the characteristics of pneumonia before and during the COVID 19 pandemic in dr.Moewardi Hospital, Surakarta.

Methods

A retrospective study was conducted in pediatric patients treated in dr.Moewardi Hospital, Surakarta from January to December 2019 and from January to December 2021.The data were taken from medical records. Epidemiological and clinical data were extracted and compared with chi square test.

Results

Pneumonia occured in 102 (54.5%) and 85 (45.5%) pediatric patients in 2019 and 2021, respectively. The highest incidence is in children under 5 years old, that is 82.4% in 2019 and 67.1% in 2021 ($p=0.031$). Children requiring PICU admission is higher in 2019 (61.8%) than in 2021 (32.9%) ($p<0.001$). The most common causative germ is Acinobacter baumanii found in 39.2% in 2019 and 24.7% in 2021 ($p<0.001$), followed by Klebsiella pneumonia 35.3% in 2019 and 15.3% in 2021. Pseudomonas aeruginosa was found in 16.5% Cases in 2021.

Conclusion

Age, PICU admittance, and type of bacterial culture differ significantly in children with pneumonia treated in dr.Moewardi Hospital before and during the COVID-19 pandemic.

Keywords : Children, COVID-19, Pneumonia.

RES 38

How Expensive is Treating Hospitalized Children with Tuberculosis: A Cross-Sectional Study in District Hospital in East Java

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Objective: Pediatric tuberculosis (TB) is a challenging disease because its occurrence is closely related to adults, require long treatment, highly dependent. However, clinical profile and cost burden of pediatric tuberculosis in Lumajang remain unknown.

Methodology: We retrospectively reviewed medical records among patients from district hospital in Lumajang, East Java from January 2022 to May 2023. Cost burden was assessed by comparing hospitalization expenditures relative to family's disposable income. Catastrophic expenditure was defined as ≥50% of a family's disposable income. We aimed to determine patient clinical characteristics, and cost burden of pediatric TB.

Results: Of 21 patients, 71,43% had pulmonary TB (PTB), 19.05% had extrapulmonary TB (EPTB) and 9.52% had combined TB. Compared with PTB and EPTB, Combined TB were associated with lower re-hospitalization frequency (3.56 and 2 vs. 1 time), and longer length of stay (5 and 3.75 vs. 7 days). PTB with comorbid was associated with mortality (0.63%). Abnormal X-ray findings were found in 66.6% Cases, with high monocyte count (76.19%) and high neutrophil count (38.09%) also high AST/ALT (38.09%).
Patients with personal financing were 52.38% more than those using health insurance (47,62%), among them 14.28% were applying for incapacity certificate. PTB with comorbid, EPTB and combined TB had higher financial burdens (37%, 33%, 48% vs 29%) and higher rates of catastrophic expenditure (18%, 20%, 50% vs 11.76%) compared with PTB without comorbid.

Conclusion: Pediatric tuberculosis can cause financial burden and catastrophic expenditure. Therefore, early diagnosis, improved screening and insurance access are essential for adequate management of pediatric tuberculosis.

Keywords: cost burden; hospitalized; pediatric; tuberculosis;

RES 06

The Role of Bronchoscopy in Teenage Endobronchial Tuberculosis: A Case Report

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Background
Endobronchial tuberculosis (EBTB) is often underdiagnosed in children. It can lead to serious complication such as severe airway obstruction and respiratory failure. Diagnostic delays usually happen due to non-specific symptoms and chest radiograph. Bronchoscopy plays important role both in the diagnosis and the therapy.

Case Report
A seventeen-year-old boy, referred to emergency department due to severe dyspnea due to left sided tension pneumothorax. He was experiencing productive cough and fever since one month before admission. The physical examination revealed decreased left lung sound, hyperresonance to percussion, and multiple right cervical lymph node. The radiology of the lung showed left sided hydropneumothorax and bilateral consolidation with cavities. He underwent emergency tube thoracostomy. The acid-fast bacilli (AFB) was positive and sputum Xpert MTB/RIF was also positive sensitive to rifampicin. Seven days after left thoracostomy tube removed, right sided tension pneumothorax was developed and the patient underwent right tube thoracostomy. Bronchoscopy revealed bilateral swollen hyperemic bronchial mucosa covered with Caseating material (some with near total occlusion) of bronchial lumen and bronchial fibro-stenosis. Cryotherapy had not been performed yet due extensive lesion. Four-drugs first line antituberculosis treatment (ATT) and steroid were given and the patient's condition significantly improved after one month of ATT administration. Follow up bronchoscopy was planned.

Conclusion
Clinicians should be aware of EBTB in teenagers. Bronchoscopy plays important role for the diagnosis and treatment of EBTB.

Keywords
bronchoscopy, EBTB, teenage endobronchial tuberculosis.

RES 37

Lung Abscess in a Child with Scoliosis and Cerebral Palsy

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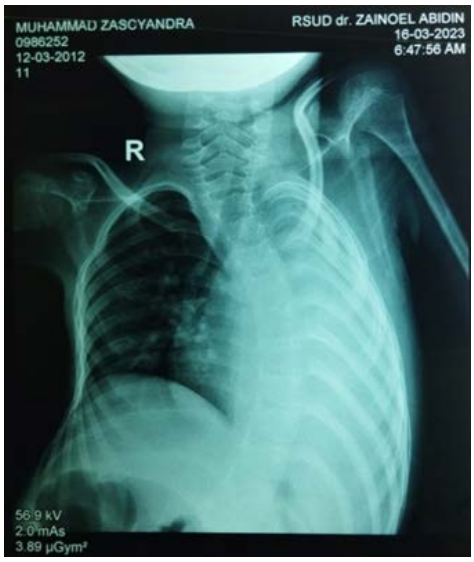
Objectives: Lung abscess is a lung parenchymal infection that forms cavities and central necrosis, and produces a thick-walled, purulent border. Lung abscess in children prevalence is 0.7 per 100,000 per year. Primary lung abscess occurs in children with previously healthy lungs, while secondary occurs in children with cystic fibrosis, immunodeficiency, congenital adenomatoid cysts, achalasia, and cerebral palsy. Cerebral palsy with poor swallowing reflex causes recurrent aspiration pneumonia, a risk factor for lung abscess. Severe scoliosis also exacerbates lung abscesses, where the abnormalities reduce lung function and increase risk of recurrent lower respiratory tract infections. Diagnosis confirmed with CXR air-fluid level in the lung cavity and validated by CT-Scan.

Case: A 11-year-old boy with shortness of breath, cough, and fever for 2 months, history of cerebral palsy at 1 year old. Oxygen saturation was 90%, 37.8^{o}C temperature. Physical examination found asymmetrical chest shape, dull percussion sound in the left lung, and decreased left vesicular. CXR showed left pleural effusion and thoracic scoliosis. CT scan showed rim enhancing lesion in the left lower lobe with multiple lymphadenopathies in the right lower paratracheal and subaortic corresponding to the appearance of an abscess, thoracic levoscholiosis. Bronchoscopy shows appropriate abscess lesions. Initial treatment with antibiotics and lobectomy was planned.

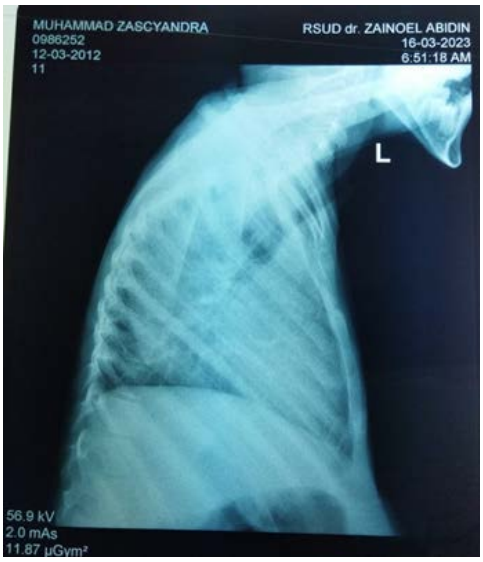
Conclusion: Lung abscess is a lung parenchymal infection that forms cavities and central necrosis, and produces a thick-walled, purulent border. In this Case, the clinical condition was exacerbated by scoliosis and cerebral palsy initial treatment with antibiotics and planned for lobectomy if treatment fails.

Keywords: Lung Abscess, Scoliosis, and Cerebral Palsy.

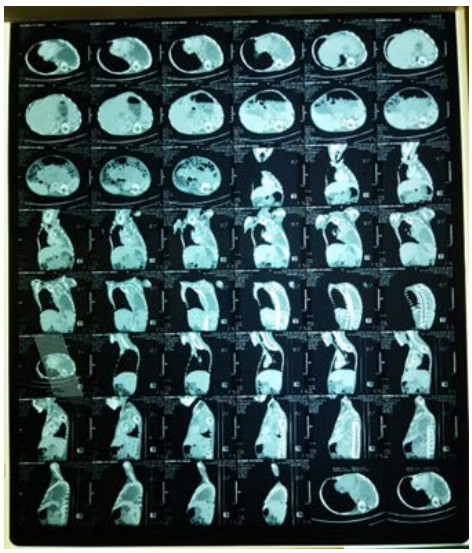
Attachment



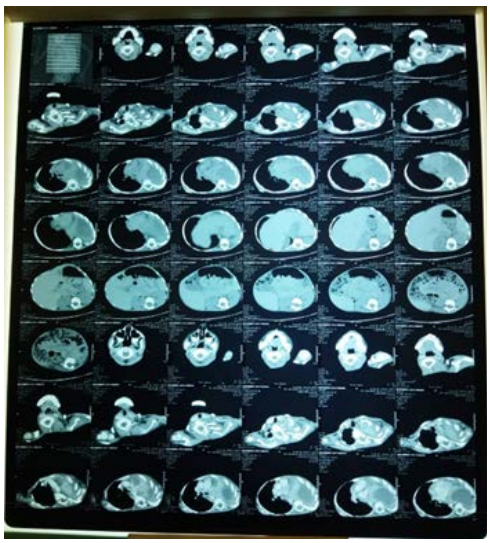
Thorax X-Ray March 16th 2023



Thorax X-Ray March 16th 2023



CT-Scan Thorax March 24th 2023



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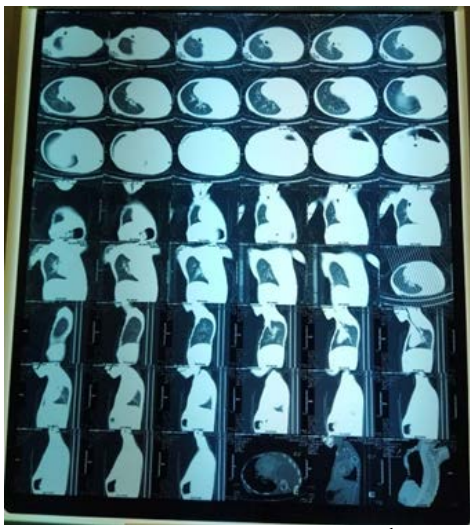

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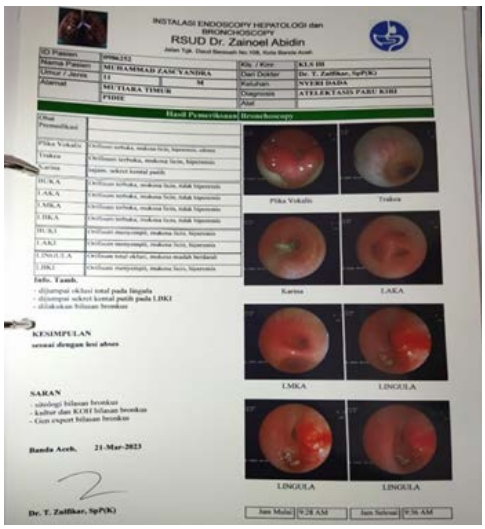

Bronchoscopy March 21st 2023

RES 76

Pediatric Lung Abscess
A rare Case report

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Background/ objective: Lung abscess in children in the era of antibiotics is rare , and commonly occurred in children with predisposing co-morbidities. It's clinically mis-diagnosed as pulmonary tuberculosis. This Case study aims to describe the approach and management of primary lung abscess.

Case: A 3 years 7 months old boy was referred at our institution due to difficulty of breathing. He was previously well, then 3 weeks prior to admission he had fever, cough and cold. Later on, he developed difficulty of breathing. No history of TB exposure. Physical examination revealed asymmetrical chest expansion, decreased breath sounds, dullness on percussion at right hemithorax, no crackles and wheezing. The laboratory examination showed increased marker of infection. The Chest X Ray showed lung abscess. Despite wide-spectrum antibiotic therapy, the patient's progress remained poor and eventually he was treated as pulmonary TB then referred to our institution. Re-investigation of pulmonary TB was negative , a chest CT scan established the diagnosis of a large lung abscess. The chest tube insertion was done, purulent discharge around 200ml with foul smelly was noted. This is a Case of primary lung abscess that occur in a child without co morbid, is predominantly caused by Streptococcus pneumoniae or Staphylococcus aureus. Initially starts as lung inflammation, followed by necrosis, progressive fibrosis, and cavity formation, leading to the suppurative destruction of lung parenchyma with central cavitation.

Conclusion: This report will enlighten clinicians to have a high index of suspicion of lung abscess in children who do not respond to adequate antibiotics. Further investigation was needed to rule out pulmonary tuberculosis.

Keyword: lung abscess, child

RES 73

Treatment Outcome among Immunocompromised Children with Pulmonary Tuberculosis Disease

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Objective: Immunocompromised children are at the risk of developing the most severe forms of Tuberculosis (TB) with high mortality and morbidity rate. The aim of this study is to evaluate the outcome of TB in immunocompromised children.

Method: We retrospectively reviewed medical records of children diagnosed with pulmonary TB disease from 2022-2023 at Dr Soetomo General Academic Hospital. Subjects were divided into two groups based on immunocompromised status. An analysis was carried out with the patient's clinical outcome being discharged, patient died, and length of stay (LOS). Analysis of risk factors of age, and gender was also performed. Statistical analyses were performed using a comparative test (Fisher exact test). P value of <0.05 was considered statistically significant.

Result: 106 patient met the inclusion and exclusion criteria. The mean age was 10.42 (SD 6.41) years, the most prevalent <15 years (61.3%), with 59.4% were female. 53 children with leukemia, congenital heart defects, malnutrition, chronic kidney diseases, diabetes mellitus, and autoimmune diseases are among immunocompromised group. 8 (15.1%) patients died at the immunocompromised group and 2 (3.8%) patients died in another group. Immunocompromised group had a mortality rate of 15.1% higher and there was a significant correlation between LOS and patient outcomes (P 0.033). The OR value was 6.5, indicating that LOS <25 days was 6.5 times more likely to have an improvement than death (95% CI 1.273-33.201). No significant correlation between age and gender with outcome at both groups.

Conclusion: Mortality rate and LOS is higher in TB children with immunocompromised conditions.

Keywords: Tuberculosis disease, Children, Immunocompromised

RES 78

Multi-Drug Resistant Tuberculosis Risk Factor in Children: Descriptive Study from a Single Centered Experienced

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Background: Multidrug-resistant tuberculosis (MDR-TB) continues to be a public health problem, taking a heavy toll on patients and health care systems. Recent global estimates indicate that there were about half a million new Cases of multidrug-resistant TB (MDR-TB) in 2018, with less than 40% of the estimated burden being notified. This study aimed to describe the risk factors of multi-drug-resistant tuberculosis among children.

Methodology: A descriptive study was performed among children under 18 years old with MDR-TB from July 2019 to July 2023 at Respirology Outpatient Clinic at Prof. Dr. R. D. Kandou General Hospital Manado. Baseline data including gender, age, nutritional status, chest radiography, and history of contact with patient with confirmed MDR-TB were collected. The sensitivity of rifampicin was evaluated by MTB/RIF GeneXpert assay.

Result: Among 30 patients, 93,3% patients have a history of contact with patient with confirmed MDR-TB. Majority of the patient were female (63.3%) with mean age was 13.93 ± 2.43 years old (9–17 years old). Chest radiography showed cavitation on 23 children (76.7%) and pleural effusion on 7 children (23.3%). Ten children (33.3%) were mild malnutrition and 6 children (20%) were severe malnutrition. Most of the children have prior treatment history (86.7%), negative HIV status (96.7%), and life in rural areas (93.3%).

Conclusion: Children with MDR-TB are commonly found with malnutrition, history of contact with TB patients, prior treatment history, and living in rural areas. There should be another study to analyze the correlation between MDR-TB and its risk factors in children.

Keywords: Children, Tuberculosis, Multidrug Resistance Tuberculosis

RES 79

The Association of Serum Cortisol Level and Sepsis Outcome in Children: A Systematic Review and Meta-Analysis

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Objective: The activation of the hypothalamic-pituitary-adrenal axis as a response to stress in pediatric sepsis, characterized by increased serum cortisol levels, has a potential role in predicting sepsis outcomes. This meta-analysis aimed to determine the association between serum cortisol levels with mortality and duration of hospitalization in children.

Methods: This systematic review and meta-analysis was based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guide. Cochrane Library, Pubmed, Medline, and Google Scholar were searched with keywords: "serum cortisol", "OR", "adrenal insufficiency", "AND", "outcome", "OR", "mortality", "OR", "length of stay", "AND", "sepsis", "AND", "child". The observational study (cohort, Case-control, and cross-sectional study) included children under 18 years old with sepsis was selected. Mean serum cortisol level, duration of hospitalization, and mortality data were extracted from eligible articles. Random-effect meta-analysis was performed.

Results: eight studies, 2 cross-sectional and 6 prospective, met eligibility criteria and were included in this study. Seven studies (570 patients) provided data for survival and four studies (429 patients) provided data for the duration of hospitalization. Sepsis survivors had significantly lower serum cortisol levels of 14.53 µg/dL compared to non-survivors (mean difference=-14.53; 95%CI=-26.18 to -2.87; p-value 0.01). Patients with high cortisol levels had a 6.8-day longer duration of hospitalization compared to the low-cortisol group but were not statistically significant **(**mean difference=-6.8; 95%CI=-25.10 to -11.51; p-value 0.47).

Conclusions: There is a significant correlation between serum cortisol levels and sepsis mortality. More intensive treatment needed in pediatric sepsis patients with high cortisol levels to prevent mortality.

Keywords: children, cortisol, mortality, outcome, sepsis.

Res-2-02

Risk Factors for Malignant Leukocytosis in Pediatric Patients with Pertussis at Dr. M. Djamil Hospital Padang

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Fakultas Kedokteran Universitas Andalas

Introduction : Pertussis or whooping cough is an acute respiratory disease caused by the Gram-negative bacilli *Bordetella pertussis*. Malignant pertussis is a rare, life-threatening illness characterized by severe respiratory failure, severe leukocytosis, and pulmonary hypertension. This paper aims to identify the risk factors for malignant leukocytosis in pediatric patients with pertussis at Dr. M. Djamil Hospital Padang.
Methods : A Case control study on pediatrics hospitalized with pertussis from October 2022 to July 2023. The pediatrics were divided into two groups according to the leukocyte count: malignant and no malignant groups. All Case data collected from medical records including age, sex, immunization history, parent's education level, and laboratory examinations.
Result : A total of 17 samples consisted of malignant leukocytosis (n=7) and non-malignant leukocytosis (n=10). The results obtained were mostly women: 57.1% (n=4) and 60% (n=6), aged 0-5 years: 71.4% (n=5) and 90% (n=9), good sanitation: 100% (n=7) and 80% (n=8), not immunized: 100% (n=7) and 70% (n=7), education of fathers and mothers in the malignant group is university 57.1% (n=4) and 71.4% (n=5), while the non-malignant group was senior high school 50% (n=5) and 40% (n=4). No significant difference was found between risk factors for the malignant and non-malignant leukocytosis groups ($p>0.05$).
Discussion: There were no significant differences in sex, age, sanitation, history of DPT immunization, and parental education with the incidence of malignant and non-malignant leukocytosis in children with pertussis.

Keywords: pertussis, malignant leukocytosis, risk factors

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RES 19

Characteristics of Pediatric Tuberculosis Patients in West Nusa Tenggara Province General Hospital During COVID-19 Pandemic

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Background: Tuberculosis (TB) infection is still an important health problem worldwide, especially in children. The Coronavirus Disease (COVID-19) pandemic has affected the priority of healthcare including TB services. Many health services reported a significant decrease in TB detection, notification, treatment and prevention due to COVID-19 policies. Therefore, we conducted a study to determine the characteristics of pediatric TB patients in West Nusa Tenggara Province General Hospital during COVID-19 pandemic.

Methods: This study was a retrospective study using registry data from the Pediatric Respirology Division, Department of Child Health, West Nusa Tenggara Province General Hospital from March 2019 to December 2021.

Results: Of 225 children with TB disease, there were 66.2% outpatient and 33.8% inpatient. Thirty point seven percents (69/225) were in ages group 5 to 11 years old and mostly were males (69.8%). West Lombok Regency was the district with highest number of subjects (37.3%). Majority of subjects were visited in March-December 2019, nearly before pandemic. Polymerase Chain Reaction (PCR) test for TB were performed in 172 (76.5%) subjects and showed positive result in 22/172 (9.8%). Most of them were pulmonary TB (72.9%) and 9.8% bacteriologically confirmed. Only 4 (1.8%) of children were died.

Conclusion: Pulmonary TB is the most common TB disease among pediatric TB patients in this study. During study period, the number of hospital visit was decreased due to COVID-19 policies. This findings can guided healthcare providers to improve detection, treatment and prevention of TB disease post COVID-19 pandemic.

Keywords: Pediatric Tuberculosis, Characteristics, COVID-19 Pandemic

RES 20

Meningitis Tuberculosis as a Complication in Children with Miliary Tuberculosis at Citra Arafiq Sawangan Hospital

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Pediatrician, Citra Arafiq Sawangan Hospital, Depok, Jawa Barat

Backgorund
WHO reports that there are at least 1.2 million Cases of Tuberculosis (TB) in children. Miliary Tuberculosis is a form of severe Tuberculosis (TB) and accounts for 3–7% of all TB Cases with a high mortality rate. Symptoms and initial signs of miliary TB are similar to those of other TBs, in advanced circumstances, it can occurs until disruption of organ function, to shock.

Case
A 10-year-old boy came to the ER with complaints of an entire body seizure for a duration of ±2 minutes. It's been repeated twice before. The first seizure with a duration of ±15 minutes, the second seizure with a duration of ±5 minutes, the patient was unconscious at the distance between seizures. No history of fever. No previous seizure history. The patient has a cough that has been said to have been for two weeks. Family history with Pulmonary Tuberculosis treatment denied. On physical examination, GCS E2M4V2, Temperature 37 C, Pulse 99x, RR 22x, SpO2 96% with oxygen. Laboratory examinations were performed on increased leukocytes, and on the thoracic X-ray images were performed on Miliary Tuberculosis. CT Scan, EEG, and cerebrospinal fluid analysis were not performed due to facility limitations. Further observations were made in the PICU room with intravenous fluid therapy, antibiotic iv, phenytoin iv, antipyretic iv, and enteral nutrition through NGT. After 7 days of treatment, the patient's condition improves, GCS 15, no seizures, and can communicate well.

Conclusions
Miliary Tuberculosis is a severe Tuberculosis that can cause impaired function of other organs. In this Case, there are complications, namely Meningitis TB. There is a need for screening for all family members/neighbors so that can be early treatment.

Keywords
Miliary Tuberculosis, Meningitis Tuberculosis

RES 28

Spondylitis TB with TB Lung in Children

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Objective: Tuberculosis primarily affects the lungs and it's still a main problem in Indonesia. Apart from infecting lung, TB can also affect other organs (extrapulmonary TB). Around 10% of extrapulmonary TB Cases are spondylitis TB. This often happened in 5-10% of children who are infected with tuberculosis.

Case: A 1-year-old boy came to ER with a chief complaint of a bump on the thoracic region in the past 2 months. The parent complained that he always cries because of the pain in his back and feels weakness in his limb. Another complaint was a nonproductive cough for about 1 month with dyspnoea after coughing without fever and night sweats, weight loss was present. Contact with tuberculosis in the family was denied, and never being immunized. From physical examinations, there was a fixed mass at the back size of about 5x4x4cm, hard, no fluctuations. Thorax X-ray results showed bilateral pneumonia with a suggestive specific process of TB and Thoracal Vertebrae X-ray showed a compression fracture on thoracal with gibbus formation. Gene Xpert result Mycobacterium Tuberculosis was positive.

Conclusion: The diagnosis of our patient was based on the combination of clinical manifestation, radiology findings and Gene Xpert results. The prognosis of our Case depends on the course of the disease, management of therapy, and also complications.

Keywords: Tuberculosis, Spondylitis, Vertebrae, Lung, and Children

RES 44

Pertussis Encephalopathy in a 47-day-old Male : A Case Report

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Background:
The decrease in routine vaccinations during COVID-19 pandemic may lead to an increase of vaccine-preventable diseases. Encephalopathy is a rare and severe complication of pertussis with high mortality.

Case:
A 47-day-old male presented to our hospital with seizures, fever, and cough. He had a generalized seizure before admission and once at the ED. One week before admission, he developed a mild cough. He had received one dose of DTaP-HepB-Hib combined vaccine at 43-day-old then fever started. His cough worsened at night. He appeared lethargic with normal neurological examination. A presumptive diagnosis of meningitis was made, and he was transferred to the PICU. Laboratory tests showed leukocytosis ($13.5x10^9$/L) and high CRP (138 mg/L). Chest X-ray and brain CT Scan with contrast showed normal results. He was treated with ampicillin, ceftriaxone, dexamethasone, phenytoin, and paracetamol. Paroxysmal cough was described and he was later found to have a positive nasopharyngeal swab PCR for *B. pertussis*. We added azithromycin and caffeine. A lumbar puncture was performed and CSF analysis was clear and colorless with elevated cells (188 cells/microL), protein (152 mg/L), and glucose (104 mg/dL). He had three apnea events on the first day of PICU without recurrent seizure. Both CSF and blood cultures were sterile. Post-exposure prophylaxis were given to family members. The patient was discharged on the eighth day of hospitalization.

Conclusion:
This Case highlights that pertussis is a re-emerging disease. Maximizing DTP immunization coverage is important in reducing Cases, severity, and transmission.

Keywords:
Apnea, encephalopathy, pertussis, seizure

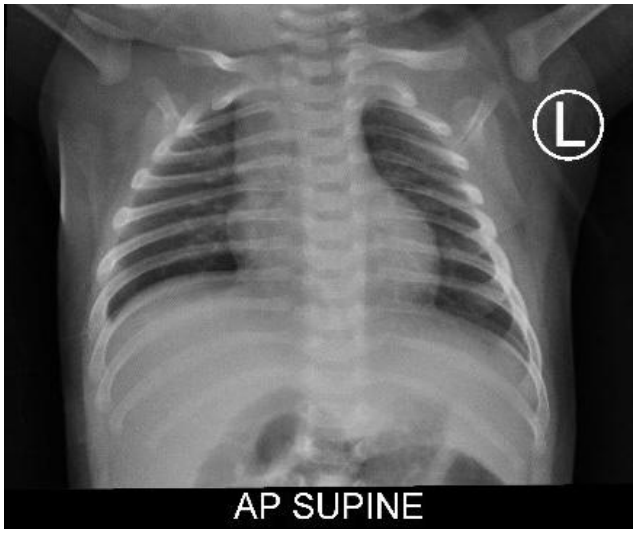

Figure 1. Chest X-ray

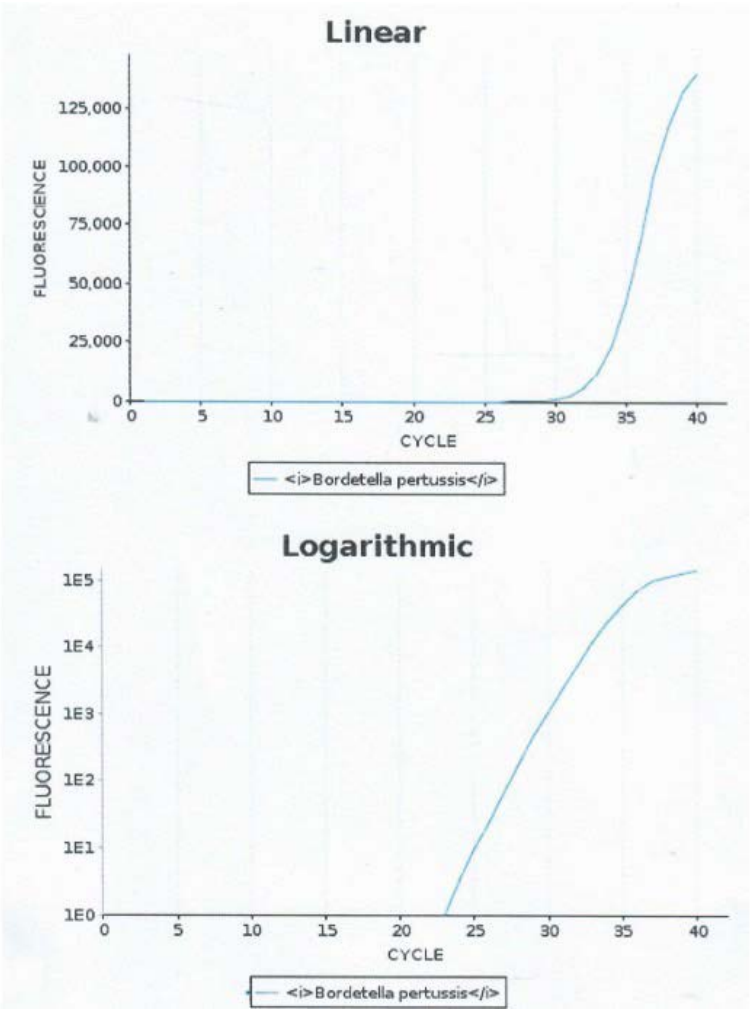

Figure 2. Qiastat respirology result

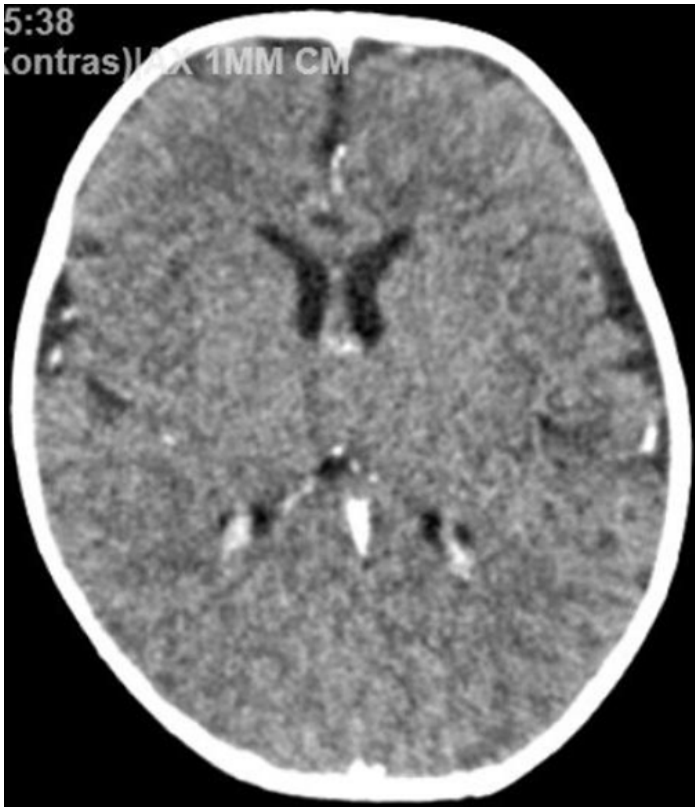

Figure 3. Head CT Scan with contrast

RES 60

Multi Drugs Resistance Tuberculosis: A Rare Case

Christanty S.D Jacobus, Riza Sahyuni, MS Anam

Department of Child Health, Faculty of Medicine Diponegoro University, dr. Kariadi General Hospital Semarang, Indonesia

Objective: Multidrug-resistant tuberculosis (MDR-TB) is a condition brought on by bacteria that are both phenotypically and genetically resistant to Isoniazid and Rifampicin. Bacteriological confirmation can be difficult in young children and the diagnosis is frequently confirmed clinically, whereas in adolescents with TB, bacteriological confirmation is more easily acquired. We report the clinical characteristics, therapy, and outcome of patient with MDR-TB.

Case: A 10 years old girl presented with complaints of coughing for about two months, difficulty gaining body weight, and close contact with an adult on TB treatment who took medicine irregularly. The physical examination revealed rhonchi in both lungs. The chest x-ray examination showed pulmonary TB, and the molecular rapid test revealed MTB detected medium and Rifampicin resistance. The patient was later diagnosed with MDR-TB. The Line Probe Assay has been valid and the second line medicines including injectables are still effective. The liver function test and ECG was within normal limit. The patient had never had an HIV test before and was programmed to be tested at the hospital at this time. The patient had a sputum test to evaluate drug sensitivity and the results were still affected by high dosages of Isoniazid, Pyrazinamide, Levofloxacin, Moxifloxacin, Bedaquiline, Clofazimine, and Linezolid. The patient was given antituberculous therapy, including Levofloxacin, Bedaquiline, Linezolid, and Clofazimine. The patient's condition was improved. The therapy was supposed to last 20 months.

Conclusion: Multi drugs resistance tuberculosis is uncommon in children due to the difficulty of diagnosing bacteriologically. Early diagnosis and prompt therapy will give good results.

Keywords: Multi drugs resistance tuberculosis

Informasi Detil Pasien TBC RO

Kode Fasyankes	: 3374010	Nama Lengkap	NISWA RESI PAMBAYUN	Tanggal Register	: 02/12/2022
Nama Fasyankes	: RS Umum Pusat Dr. Kariadi	NIK/No. Identitas	3374135607120005	No. Reg Fasyankes	: 0091
Provinsi	: Jawa Tengah	Status NIK	Terverifikasi	No. Rekam Medis	: C405231
Kabupaten/Kota	: Kota Semarang	Umur	: 10 Tahun 4 bulan	No. Reg Kab/Kota	: 3374 0169
		Jenis Kelamin	: Perempuan	Tindak Lanjut Hasil Diagnosis	Diobati

Nomor Register SITB:
2022000047550665
NISWA RESI PAMBAYUN

Data Dasar | Data Kontak | Permohonan Laboratorium | Hasil Laboratorium | Data Kasus | Pengobatan | MESO Harian | Laporan KTD Serius | Informasi Tambahan | Enabler | Riwayat Kasus

+Hasil Pemeriksaan Mikroskopis

-Hasil Pemeriksaan Xpert (TCM)

Alasan Pemeriksaan	Tanggal Register	No. Reg Lab	Laboratorium	Fasyankes Asal Contoh Uji	Tanggal Contoh Uji Diterima / Konfirmasi Penerimaan	Jenis Contoh Uji	Konfirmasi Penerimaan Contoh Uji	Hasil Uji				Catatan	
								Ke	Tanggal	Hasil	Hasil Akhir		
Diagnosis TB SO	24/10/2022	22/P3374120201/1/0761	Puskesmas Bandarharjo	Puskesmas Bandarharjo	24/10/2022	Dahak	Baik	1	24/10/2022	Rif Res	Rif Res		
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Diagnosis TB SO	17/10/2022	22/P3374120201/1/0743	Puskesmas Bandarharjo	Puskesmas Bandarharjo	17/10/2022	Dahak	Baik	1	17/10/2022	Rif Res			
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Alasan Pemeriksaan	Tanggal Register	No. Reg Lab	Laboratorium	Fasyankes Asal Contoh Uji	Tanggal Contoh Uji Diterima / Konfirmasi Penerimaan	Jenis Contoh Uji	Konfirmasi Penerimaan Contoh Uji	Ke	Tanggal Hasil Dilaporkan	Item Uji	Hasil Uji	Catatan	
Pemeriksaan Diagnosis Baseline	03/12/2022	0837	RS Umum Pusat Dr. Kariadi	RS Umum Pusat Dr. Kariadi	03/12/2022	Dahak	Baik	1	06/12/2022	LPA lini dua	Valid	Levofloxacin, Moxifloxacin, SLID (second Line Injectable Drugs) masih efektif.	
										MTB	MTB Detected (D)		
										Lfx	Resistance Not Detected (RND)		
										Mfx	Resistance Not Detected (RND)		
										Mfx DT	Resistance Not Detected (RND)		
										Km	Resistance Not Detected (RND)		
										Amk	Resistance Not Detected (RND)		
										Cm	Resistance Not Detected (RND)		

Alasan Pemeriksaan	Tanggal Register	No. Reg Lab	Laboratorium	Fasyankes Asal Contoh Uji	Tanggal Contoh Uji Diterima / Konfirmasi Penerimaan	Jenis Contoh Uji	Konfirmasi Penerimaan Contoh Uji	Tanggal Hasil Dilaporkan	Item Uji	Hasil Uji	Catatan	
Pemeriksaan Diagnosis Baseline	02/12/2022	4245	BLK Semarang	RS Umum Pusat Dr. Kariadi	23/12/2022	Dahak	Baik	25/01/2023	H Dosis Tinggi	Sensitif		
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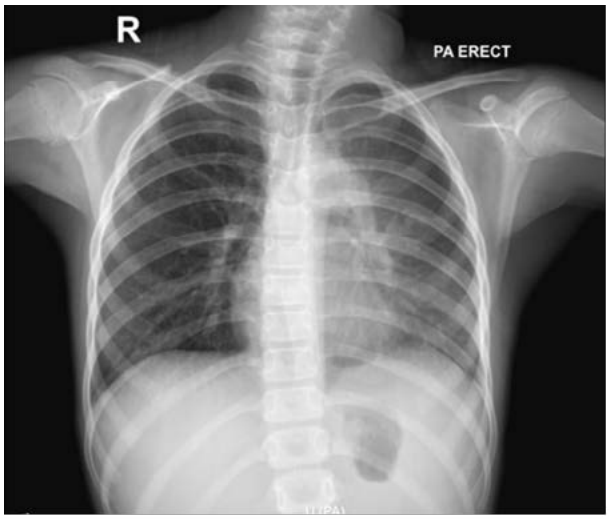

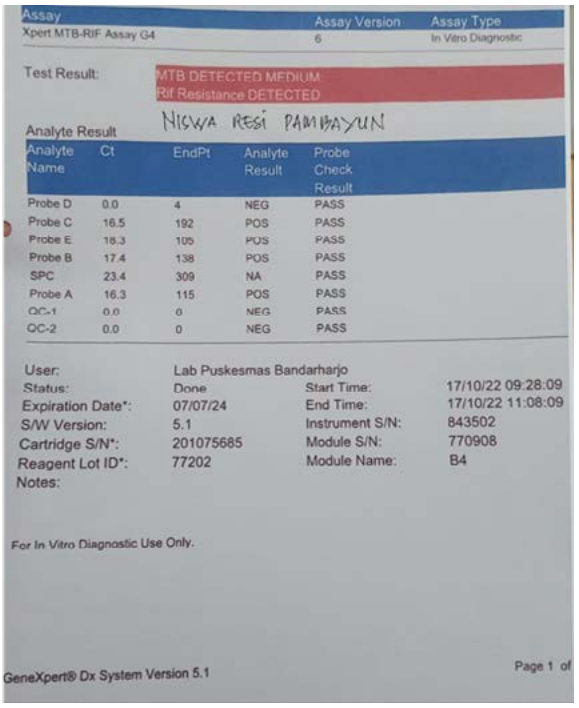

Assay			Assay Version	Assay Type
Xpert MTB-RIF Assay G4			6	In Vitro Diagnostic

Test Result: MTB DETECTED MEDIUM
Rif Resistance DETECTED

NISWA RESI PAMBAYUN

Analyte Result

Analyte Name	Ct	EndPt	Analyte Result	Probe Check Result
Probe D	0.0	4	NEG	PASS
Probe C	16.5	192	POS	PASS
Probe E	18.3	105	POS	PASS
Probe B	17.4	138	POS	PASS
SPC	23.4	309	NA	PASS
Probe A	16.3	115	POS	PASS
QC-1	0.0	0	NEG	PASS
QC-2	0.0	0	NEG	PASS

User:	Lab Puskesmas Bandarharjo		
Status:	Done	Start Time:	17/10/22 09:28:09
Expiration Date*:	07/07/24	End Time:	17/10/22 11:08:09
S/W Version:	5.1	Instrument S/N:	843502
Cartridge S/N*:	201075685	Module S/N:	770908
Reagent Lot ID*:	77202	Module Name:	B4
Notes:			

For In Vitro Diagnostic Use Only.

GeneXpert® Dx System Version 5.1 Page 1 of

RES 63

Inhaled Corticosteroid Therapy in Infants with Bronchopulmonary Dysplasia: Case Series

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Background:
Bronchopulmonary dysplasia (BPD) is a chronic lung disease most commonly seen in premature infants who require mechanical ventilation but can also be found in term infants. Despite the use of systemic post-natal corticosteroids, BPD remains the most common chronic lung disease in infancy. Previous studies have reported a significant decrease in the incidence of BPD or death in patients who received inhaled budesonide. Herein, we reported two infants with BPD who improved with inhaled corticosteroids.

Case:
First Case: A 48-day-old full-term, appropriate-for-gestational-age infant with meningitis, pneumonia, and BPD who had been intubated for 40 days but could not be weaned. He received the DART regiment for ten days without any improvement. The treatment was then continued with inhaled budesonide 0.25 mg per 12 hours. After three weeks, he could breathe without oxygen supplementation and was discharged with a fluticasone-salmeterol inhaler with a spacer twice a day.
Second Case: A 60-day-old full-term, small-for-gestational-age infant with post-surgical repair of ruptured meningocele, meningitis, pneumonia, and BPD. He could not be weaned from CPAP even after receiving the Cummings regimen for 42 days. Treatment with inhaled budesonide was initiated. After five days, he could be weaned into intranasal oxygen. He was discharged with a fluticasone inhaler with a spacer twice a day.
Both patients showed no abnormalities on screening for visual and hearing impairment. Monitoring for neurodevelopmental delay was continued for both patients.

Conclusion
Inhaled corticosteroid produces a good outcome in patients with BPD. Long-term follow-up is required for side effects monitoring.

Keywords**:** Bronchopulmonary dysplasia, inhaled corticosteroid, infant

RES 74

Case of a 3-year-old with Miliary Tuberculosis in Malnourished Child: Primary Care Hospital Approach

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Objective: Miliary tuberculosis is an infectious disease caused by airborne disease and can be fatal due to its hematogenous spread. Children encounter severe symptoms and complications, which cause a high mortality rate. Estimated 1,1 million tuberculosis occurs in children with a mortality rate of around 25%. Pediatric tuberculosis is estimated to make up to 12% of the total number of Cases, with 87,000 children estimated to develop tuberculosis each year in Indonesia. Early detection and treatment must be done in primary care to prevent further complications.

Case: A patient aged 3 years old was admitted to the hospital with a complaint of fever for 1 month, cough for 3 weeks, decreased weight 3 kilograms in 1 month, and lack of appetite. Physical findings show large lymph nodes, severe malnutrition, and stunting. The patient has not received BCG immunization. History of tuberculosis contact was previously known from a family member. Laboratory findings show anemia (8.6 g/dL), leukocytosis (24.6/ul), and neutrophilia (72.6%). Radiological chest x-ray shows the presence of numerous small nodular opacities in both lungs. Tuberculin test results 13mm with Tuberculosis Score 11.

Conclusion: Risk factors, in this Case, are malnutrition, lack of BCG immunization, and history of tuberculosis contact. A holistic diagnostic approach must be conducted to diagnose miliary tuberculosis since the clinical signs vary. Early intervention and immediate treatment in primary care hospitals are expected to provide better results to reduce mortality and complications in children.

Keywords**:** Children, Miliary Tuberculosis, Tuberculosis

RES 80

Risk Factors of Pneumonia Complicated with Congenital Heart Disease on Children Age of 6-59 months at Kandou General Hospital

Susan Natalia Budihardjo, Audrey M.I. Wahani, Praisilia R.V. Najoan,

Erling David Kaunang, David S. Waworuntu
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Faculty of Medicine Sam Ratulangi University, Manado, North Sulawesi

Introduction: Pneumonia is the leading cause of under five children's mortality worldwide. One of its risk factors is congenital heart disease (CHD). Their incidence leads to significant morbidities and mortalities. The aim of this study was to evaluate the risk factors of pneumonia complicated with CHD on children.

Method: A Case control study was done on children age of 6-59 months with pneumonia at Kandou General Hospital from September 2022 to July 2023. The diagnosis of CHD was made by using echocardiography. A statistical analysis used SPSS version 23 software. Chi Square test were done and followed by multivariate analysis. The significance was p value <0.05 and odds ratio >1 considered have casual effect.

Result: A total of 60 children with pneumonia was included, 30 children with CHD and 30 children without CHD. Most of the children were boys (55%) and the mean age was 25.10 ± 15.43 months (range of 3-58 months old). The most common type CHD was VSD and PDA which are 11 children of each (18.3%). Most of the children breastfed exclusively (75%). Children with CHD mostly had a mild and severe malnutrition, 15 and 11 children, respectively. Exclusive breastfeeding (OR 0.01; 95%CI 0.04-0.66) and nutritional status (OR 13.41; 95%CI 4.03-44.71) had a significant relation with CHD (p value 0.02 and 0.000, respectively), however only nutritional status was significantly correlated with CHD (OR 11.17; 95%CI 3.30-37.86; p value 0.000).

Conclusion: Nutritional status, especially malnutrition, was the most significant risk factor for children with pneumonia and CHD.

Keywords: pneumonia, congenital heart disease, pediatric, children

Res-2-05

Spontaneous Tension Pneumothorax as initial presentation of Congenital Pulmonary Airway Malformation in 16-month-old Boy

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JIH Purwokerto Hospital

Background: Congenital pulmonary airway malformations (CPAMs) are the most common type of lung malformations in children, usually presenting with respiratory distress, recurrent pulmonary infections, or pneumothorax, but can also be asymptomatic.

Case: A 16-month-old boy came to our emergency department with sudden difficulty of breathing after swimming, without evidence of drowning. He had remarkable previous medical history. Physical examination showed asymmetrical chest indrawing, with decreased breath sound on right hemithorax and desaturation (SpO2 86%).
Chest X-ray was performed showing right tension pneumothorax with a bulla in right inferior lobe. On CT, tension pneumothorax was confirmed at the anterior side of right lung along with multiple bullae on the inferior lobe, posterobasal segment of middle lobe, and posterior segment of upper lobe of the right lung; resembling type-1 CPAM, also with moderate pneumonia. Patient was then prepared for water seal drainage (WSD) as emergency procedure and given ceftriaxone.
After WSD, the patient condition was improved. Chest Xray showed minimal pneumothorax, pneumonia, and bullae at the lower lobe of the right lung. Two days after WSD, Xray evaluation shows improvement of pneumothorax and pneumonia but an increase in bullae size. Unfortunately, we didn't perform surgical resection due to parent refusal. A week later patient could be weaned from oxygen supplementation and discharged.

Conclusion: CPAM might be detected early but might also be asymptomatic, depending on its type. As in this Case, pneumothorax was the initial atypical presentation of type-1 CPAM, and unperformed surgery might result in re-development of bullae and pneumothorax

Keywords: CPAM, Pneumothorax

Res-2-08

A Case of Pediatric Massive Tuberculous Pleural Effusion in Ende: Challenges of Diagnosis and Management in Limited Resource Settings

Brenda Cristie Edina, Danny Jaya Yacobus, Komang Alit Artha Wiguna, Mei Ika Margareth Christin, Ardanta Dat Topik Tarigan

Pediatric Department, Ende General Hospital
Pathologic Anatomic Department, Ende General Hospital

Background
Indonesia is the second largest contributor to the number of tuberculosis worldwide. Pediatric tuberculosis, especially extrapulmonary tuberculosis (EPTB), remained a burden in endemic countries due to its prevalence and challenge in diagnosis. Definitive diagnosis of EPTB was recommended to be made through tests with low sensitivity and specificity, which are usually unavailable in limited resource settings, leaving a knowledge gap on how to best diagnose and manage pediatric EPTB.

Case
We present a Case of a 10 year-old boy with recurrent progressive massive tuberculous pleural effusion, who failed antimicrobial therapy but responding to anti-tuberculosis treatment. He presented with shortness of breath and pleuritic chest pain, with diminished right lung sound. He had a history of recurrent cough, weight loss, smoking, and contact with family member with untreated pulmonary tuberculosis. X-Ray and CT scan showed massive right lung pleural effusion, however sputum and pleural fluid Xpert/MtbRif examinations were negative. On first admission, he was treated with antimicrobials and was discharged when pleural effusion was resolved. Twelve days later he came back with the same complaint, was found to have pathognomonic findings on pleural fluid cytologic analysis, and was treated using antituberculosis treatment. Initiation of antituberculosis treatment showed significant reduction in pleural fluid production.

Conclusion
In areas endemic for tuberculosis, a negative molecular assay test should not rule out the suspicion of tuberculosis, and instead urged further testing. In limited resources settings, clinical manifestations, risk factors, and symptom resolution with antituberculosis therapy played a vital role in managing pediatric EPTB.

Keywords: Massive pleural effusion, Extrapulmonary tuberculosis, Pediatrics

RES 01

Case Report: "Persistent and Recurrent Pneumothorax in Newborn with Respiratory Distress Syndrome and Neonatal Pneumonia

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Pediatrics Departement, Neonatal Intensive Care Unit, Siloam Hospital Bekasi Timur, West Java

Background

Pneumothorax is the accumulation of air in the space between the lungs and the pleura. Most pneumothoraces occur spontaneously, but they can also be associated with trauma or some preexisting pulmonary or systemic conditions. The rate of pneumothorax is relatively higher during the newborn period. Premature neonates on mechanical ventilation may develop a pneumothorax due to positive pressure and respiratory system compliance, presenting with quick deterioration and shock. In this Case, we report a rare Case of Pneumothorax in a newborn which first had persistent in right lung,and then recurrent in the left side of the patient's lung

Case

A newborn delivered from a cesarean section from a mother with G1P0A0 37-38 weeks,A/S 5/6, appeared with weak tonus,Cyanosis and gasped at birth, the patient immediately gets intubated, and a complete workup was performed. From the 1st Chest Radiology, we found the right pneumothorax with right lung collapses and bilateral pneumonia. For the initial management of the pneumothorax needle aspiration insertion had done and released 34 ml of air, but the symptoms did not resolve. Next, we take another chest radiography to evaluate the lung condition, it shows that the pneumothorax was persistent in the right lung and the amount of air trapped in the pleura increased. This condition leads us to the next management with chest tube insertion continuous with water-sealed drainage for 2 days. Next chest radiography evaluation showed no sign of pneumothorax after 24 hours after chest tube insertion. On the 7th day, the patient gets extubated from the ventilator and the airway is supported by NCPAP. Several days after the clinical sign have a good improvement, Spontaneous pneumothorax was recurrent in this patient, and respiratory symptoms appeared such as fever and tachypnea with increased work of breathing. The clinical diagnosis of recurrent pneumothorax was confirmed with upright chest radiography, in which the result show hyper lucency in the left lung (left lung pneumothorax) and bilateral pneumonia. For the spontaneous recurrent pneumothorax, the patient gets conservative care with therapy and prone positioning. Clinical symptoms gradually improved with conservative therapy, then the patient was discharged on day 30th of inpatient with stable vital signs and the pneumothorax had resolved.

Conclusion

To diagnose pneumothorax in newborns upright chest radiography is the standard procedure for confirming it. The clinical presentation was unspecific. Treatment for pneumothorax in neonates varies based on the size of the pneumothorax, severity of respiratory distress, and presence of underlying lung disease. Many Cases resolve with conservative therapies. Clinically unstable patients and most patients with underlying lung disease should be treated with chest tube insertion. In this Case, the patient has treated with chest tube insertion and getting clinically stable for the next several days at the first spontaneous pneumothorax, then for the second (recurrent) pneumothorax resolved with conservative therapies in the NICU ward.

Keywords: Pneumothorax, Recurrent, Persistent, newborn, Pneumonia.

RES 03

Near-Death Case due to Aspiration Pneumonia in A Suspected Laryngomalacia Patient in Rural Area: A Case Report

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Objective: Laryngomalacia is one of the laryngotracheobronchitis anomalies (LTBA) with a higher neonatal mortality rate. This condition also ranks as the most prevalent cause of infant stridor, associated with numbers of symptoms, such as feeding difficulties, due to the disruption of suck-swallow-breathe sequence. Flexible laryngoscopy, which is routinely performed as an office procedure, confirms the diagnosis of laryngomalacia.

Case: A twelve-day-old baby was admitted to the ER due to not breathing after choking on his pacifier. Two cycles of CPR were immediately done on the patient and there was a return of spontaneous circulation (ROSC). Based on physical examination, chest retraction and cyanosis were found. Babygram showed second right perihilar infiltrates with sharp phrenicocostal sinus and diagnosed aspiration pneumonia. Later on, there was a decline in patient's saturation, with an appearance of positional stridor that worsened in supine position. Due to his feeding problem and clinical findings on this patient, laryngomalacia is a highly suspected diagnosis. The patient was admitted to the ICU for 9 days, and was transferred to the pediatric ward.

Conclusion: A clinical diagnosis of laryngomalacia can be made based on the characteristic symptoms of inspiratory stridor and feeding issues. A definitive diagnosis of laryngomalacia can be made accurately by single examination of flexible fiberoptic laryngoscopy in the majority of Cases.

Keywords: aspiration, feeding difficulties, laryngomalacia, laryngoscope, stridor.

RES 13

The Importance of Screening for Depression and Anxiety among Adolescent with Tuberculosis Despite the Successful Treatment

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Background: Tuberculosis (TB) places a serious burden on children morbidity and mortality globally. Yet, TB in adolescents has largely been overlooked in research. The World Health Organization (WHO) reported, in 2020 an estimated 1.1 million children (aged < 10 years old) and young adolescents (aged 10–14 years old) developed TB disease and 226,000 died due to TB. At present, children's quality of life (QoL) during TB treatment receives less attention. It is possible that these may have effect on treatment adherence.

Case: A 12-year-old girl was admitted with prolonged fever and weight loss. Chest x-ray revealed pneumonia with pleural effusion in the right lung and interferon γ release assay (IGRA) test showed positive result. Smear microscopy and PCR could not be done due to no sputum. Patient was diagnosed with lung tuberculosis and TB treatment was commenced using rifampicin, isoniazid, pyrazinamide. She had supportive parents dan friends who remind her to take the medicine. She claimed there were no school difficulties. During the first 2 months of treatment, she gained weight, never missed taking medicine and doctor appointments. Despite the good treatment responses, her Patient Health Questionnaire-9 (PHQ-9) and General Anxiety Disorder-7 (GAD-7) assessment indicated mild depression and anxiety. She even had suicidal thinking for several days over the last 2 weeks.

Conclusion: Holistic approach, including screening for depression and anxiety among children with tuberculosis should be done by all healthcare workers. Psychosocial support should also be provided to achieve TB treatment success.

Keywords: Adolescent tuberculosis, depression, anxiety.

RES 15

Profile of Children with Pertussis at Tarakan Regional General Hospital Jakarta

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Background: Pertussis is caused by the bacteria Bordetella pertussis. In addition to the hallmark paroxysmal coughing, pertussis is frequently characterized by leukocytosis.

Methodology: We retrospectively reviewed the inpatient electronic medical records of confirmed pertussis Cases at Tarakan General Hospital Jakarta which has been documented from January 2023 to August 2023.

Results: There were 10 Cases confirmed using polymerase chain reaction (PCR) testing, consisted of 6 females (60 %) and 4 males (40 %). The mean age was 16,6 (1 – 61) months. There were 3 Cases (30 %) with wasted and 3 Cases (30 %) with severely wasted. The most frequent symptoms are prolonged cough (mean : 16 days), followed by fever, dyspneu, whooping cough, seizure and cyanosis. Based on the laboratory findings, all Cases were having leucocytosis ranged 28670 - 118790 per µL (mean : 64665/ µL) and absolute lymphocytosis ranged 10550 – 65335/µL (mean : 39350/ µL). Eight Cases (80 %) were underimmunized. Seven (70 %) Cases were referred from other hospitals to our hematooncology department due to marked leucocytosis. High-flow nasal cannula and mechanical ventilation were used in 6 Cases (60 %) and 2 Cases (20 %), respectively. Close contacts were confirmed in 3 out of 5 Cases during tracing. The outcomes were 8 (80 %) Cases discharged in recovery condition, 1 (10 %) discharged against medical advice and 1 (10 %) deceased.

Conclusion: Pertussis should be consider in patient with marked leucocytosis accompanied with cough more than two weeks and underimmunization.

Keywords: Pertusis, cough, leucocytosis, underimmunization, diagnosis.

RES 45

A Case Report : Neonatal Pneumothorax as Complication After Endotracheal Intubation

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Objective : Pneumothorax is the presence of air in the potential space between parietal and visceral pleurae of thoracic cavity, with consequent increase in the intra-pulmonary space pressure exceeding that of extra pleural pressure. The incidence of pneumothorax is as low as 1% in term neonates and as high as 6-10% in preterm and very low birth weight babies, likely secondary to poor lung compliance.

Case : A 2.0 kg female neonate, delivered from 38 weeks gestational age + twins + buttock presentation via spontaneous vaginal delivery in our facility suddenly born with no breathing and no pulse. Mother attended ante-natal clinic regularly and showed no fetal abnormality. There was no history of maternal disease. Labour was spontaneous, apgar score at birth were 1 and 2 at 1^{st} and 5^{th} minutes respectively. Then we performed resuscitation until endotracheal intubation and suddenly neonate had heart rate 130-140 bpm and oxygen saturation 98-99%. After 1.5 hours of observation, we performed extubation continued with CPAP with PEEP 8 and SpO_2 60%. Then chest xray showed Pneumothorax dextra with TTN. We consulted to pediatric surgeon to performed Water Sealed Drainage (WSD) under general anesthesia. The sixth day, chest xray showed no pneumothorax with cardiac and pulmonary within normal limits. On the seventh day, neonate discharge.

Conclusion : Neonatal pneumothorax is a life-threathning condition associated with a high incidence of mortality and morbidity. In this Case, pneumothorax caused after performing endotracheal intubation. We need to evaluate by chest xray after intubation and if it showed a pneumothorax should consult to pediatric surgeon for WSD, following chest xray after WSD.

Keywords : Neonatal Pneumothorax, Endotracheal Intubation, and Water Sealed Drainage

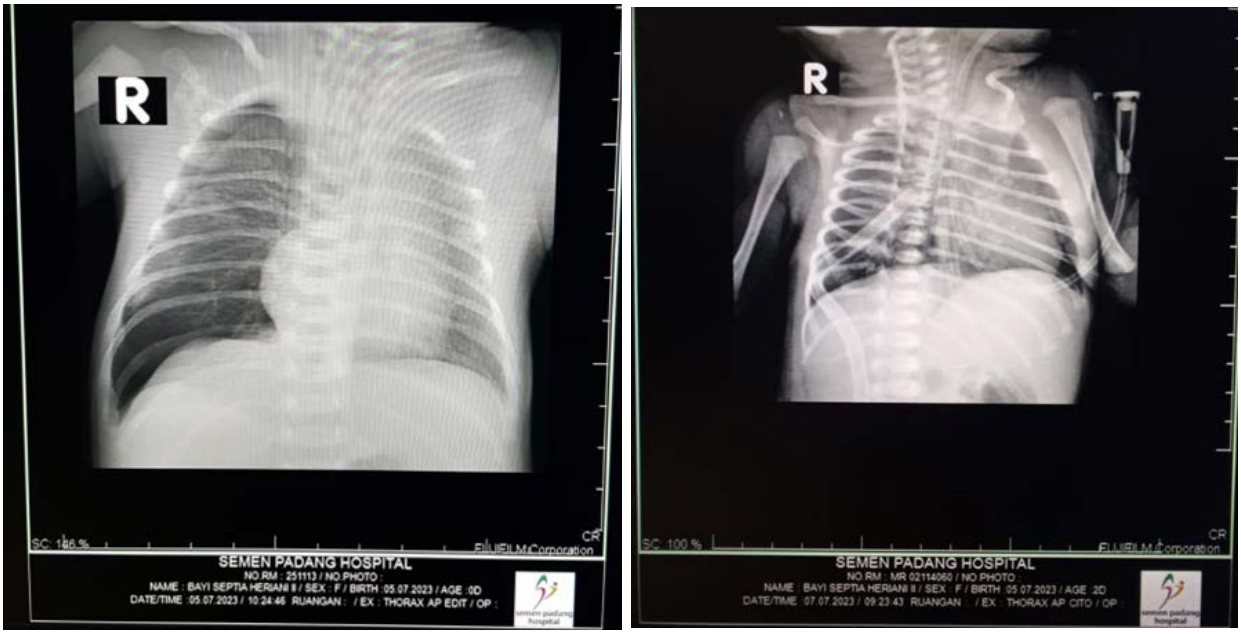

Figure 1. Chest X-ray 1st day of life showed right pneumothorax with lung collapse
Figure 2. Chest X-ray on 6th day of life showed total resolution of pneumothorax and re-expansion of lung

RES 54

Recurrent Snoring as A Clinical Manifestation of Post Transplant Lymphoproliferative Disorder of Airway: from Asymptomatic to Emergent

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Background. Post transplant lymphoproliferative disorders (PTLD) is characterized by excessive production of lymphocytes from immunosuppressant drugs to prevent rejection after transplant, which may manifest as upper airway obstruction.

Objective. Highlighting the importance of multidisciplinary approach in PTLD management.

Case. A 6-year-old girl presented with louder snoring since 7 days before admission, with no cough and rhinorrhea. At 9 months old, she underwent liver transplant due to biliary atresia, subsequently was on tacrolimus and methylprednisolone. Snoring was first witnessed at 9 months post-transplant, along with enlarged lymph nodes and adenoid. Adenoidectomy and supraglottoplasty were performed at 18 months old, resulting in vanished snoring. Four years later, snoring reappeared, nasopharyngoscopy revealed enlarged adenoid up to 50%. Intranasal corticosteroid was applied, snoring improved, and adenoids shrank by 30%. After 14 days, snoring resumed from re-enlarged adenoid up to 75% with extensive inflammation of laryngeal wall, epiglottis, and arytenoid. Biopsy was performed and histopathology investigation revealed a non-destructive histology feature with positive tissue EBV PCR results, negative EBER-ISH, and positive CD 20, suitable for PTLD. The management consisted of lowering immunosuppressants dose, surgical resection, and intravenous acyclovir. Rituximab was administered for 4 cycles, as second-line treatment. Nevertheless, snoring worsened and airway obstruction was managed with tracheostomy. Chemotherapy for Non-Hodgkin's malignant lymphoma was given to her as third-line treatment. After 2 cycles, she showed good recovery and was able to be discharged.

Conclusion. Airway obstruction manifesting as recurrent and worsening snoring should be a red flag symptom due to PTLD in a child receiving immunosuppressants.

Keywords: *snoring, post transplant lymphoproliferative disorder*

RES 29

Association of Clinical Outcome and Pathogens of Nosocomial Pneumonia in Children.

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Objective: Nosocomial pneumonia is defined as pneumonia that occurs 48 hours or more after admission to the hospital and has a high mortality and morbidity rate. This study aims to analyse the association of clinical outcome with causative pathogen.

Methodology: We retrospectively reviewed the medical records of 50 (1-18 years old) children from 2022–2023 at Dr Soetomo General Academic Hospital, diagnosed with nosocomial pneumonia. The patient's clinical outcome categorized as being improved and discharged, patient died, and length of stay (LOS). Analysis of risk factors such as age, gender, and LOS was also performed to determine the significance of the correlation with outcome. Statistical analysis was performed univariately and bivariately, with P value of <0.05 considered statistically significant.

Results: The most common pathogen is *Pseudomonas aeruginosa* (24%), 14 patients died during hospitalisation, with the highest mortality rates caused by *Acinetobacter baumannii* (28.5%) and *Pseudomonas aeruginosa* (28.5%). There was no significant correlation between pathogen and patient death. The longer LOS (> 25 days) was found in patients with bacterial culture results of *Streptococcus viridans* (27.3%), followed by *Klebsiella pneumonia* (22.7%), and *Pseudomonas aeruginosa* (18.2%). Bivariate analysis found a significant relationship between LOS and patient outcome (P = 0.045) with an OR value 0.024 compared to LOS > 25 days (95% CI 0.058–1.024).

Conclusion: *Pseudomonas aeruginosa* is the most frequent bacteria as causative pathogen with the highest mortality rate caused by *Acinetobacter baumannii* and *Pseudomonas aeruginosa.* The patient clinical outcome is affected by LOS.

Keywords: Nosocomial pneumonia, Children, Bacterial cultur

RES 35

Microbiological Characteristics of Children with Pneumonia in Intensive care compared to Non-intensive Care in Dr. Moewardi Hospital

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Background: Identification of the pathogen causing pneumonia is essential for proper treatment and rational use of antibiotics. World Health Organization has recommended the use of Ampicillin and gentamicin as first-line antibiotics and ceftriaxone as the second-line for treating children with pneumonia. Differences in patient conditions and treatment environments between intensive care unit and wards may affect sputum culture results among pneumonia patients. This study compared the sputum culture results of pediatric patients with pneumonia treated in ICU with those of patients in wards.

Methodology: A retrospective study was conducted in children diagnosed with pneumonia undergoing sputum culture examination who were treated in PICU, NICU, HCU Neonate, Pediatric HCU, and pediatric ward of Dr. Moewardi Hospital from January 2019 to December 2021. All medical data were analyzed with chi-square test, and significance level was set at $p<0.05$.

Results: The most common bacteria in the intensive care unit and ward were Ps.aeruginosa (22.9%), followed by Aci.baumannii (14.5%), and K.pneumoniae (14.1%), while in the ward was Ps.aeruginosa (17.3%), followed by Aci.baumannii (8.6%), and K.pneumoniae (4.3%). The most sensitive antibiotics in the ward and intensive room were Amikacin, Cefuroxime, and Oxacillin, respectively. Vancomycin, Tetracycline, Cefadroxil, Meropenem, Ciprofloxacin, Clindamicin, Gentamicin, Trimethroprim-Sulfamethoxazole, Ampicillin-sulbactam, Ceftriaxone, and Cefazoline antibiotics were found to have significant sensitivity differences in Ps.aeruginosa, Aci.Baumannii, and K.Pneumoniae bacteria in intensive and non-intensive wards ($P<0.05$).

Conclusion: Precaution is needed in the selection of first- and second-line antibiotics treated in intensive and non-intensive wards.

Keyword: Intensive, Microbiological characteristics, Pneumonia, Sensitivity, Ward

RES 36

Clinical Profile of Children Hospitalized with Covid-19 in West Sumba Regency during the Third Wave of Pandemic

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Background: Children are known to be less infected by Coronavirus disease 2019 (Covid-19) rather than adults. Given the limited published literature related to Covid-19 in pediatrics and Indonesia's district hospital have limited resources during the pandemic phase, the data on occurring Cases were still underreported. This study aimed to describe clinical profile of Covid-19 infection in pediatric population.

Methodology: We retrospectively analysed medical records on pediatric Case aged 0-18 years old confirmed to have Covid-19 by PCR SARS-CoV-2 who were hospitalized in Waikabubak General Hospital and Lende Moripa Hospital, as the centralized isolation facilities in West Sumba Regency, Indonesia, from January 2022-December 2022.

Results: Nineteen children were hospitalized and confirmed Covid-19 during the study period. The majority aged 29 days-1 years old (42%), male (53%) and female (47%), 3 patients have comorbidity, 52% patients were underweight, all patients had fever and majority patients were hospitalized after third day onset of fever (52%), most common symptoms were respiratory symptoms (95%), gastrointestinal symptoms (47%), and neurology symptoms (36%). Laboratory results showed that the majority had a decreased haemoglobin level. The mean haemoglobin level was 10.4 g/dL. Seventy eight percent patients were in normal range of White Blood Cells (WBC) level and the mean Neutrophil-to-lymphocyte Ratio (NLR) was 2.76. One patient treated with invasive oxygen therapy. The mean hospital stay was 6 days and no Case of death.

Conclusion: Covid-19 complications were limited among our patients. The majority symptoms were respiratory problem and treated with a non-invasive oxygen therapy. Anaemia inline with increasing length of stay.

Keywords: Covid-19, children, clinical profile.

Res-2-01

Secondary Spontaneous Pneumothorax Dextra et causa *Giant Bullae Accompanied by Sepsis at Central Hospital Padang Indonesia : A Rare Case Report*

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Objective : Pneumothorax is the presence of air in the pleural cavity. It is more common in males, ranges from 4 per 100.000. Secondary spontaneous pneumothorax occurs due to a complication of giant bullae, and it is a rare but life-threatening Case.

Case : A 14-month-old child was admitted to ER with shortness of breathing for about 10 days ago, with pneumothorax, giant bullae and sepsis. From the physical examination, the child had epigastric and intercostal retraction, hyperresonance percussion sounds and minimal breath sounds in right lung, the chest X-Ray showed in line with right lung pneumothorax. CT findings giant bullae in right lung, a surgical bullectomy was performed, anatomical pathology results are consistent with giant bullae. Removal of the chest tube after tightness absent, no fever, patient transfer to patient ward from HCU.
On the 10th day of treatment, the patient had a fever with a highest temperature of 40.7 C, then dropped, and fever returns, sepsis is established based on evaluation laboratory results with qSOFA score was positive. Blood cultures positive for *Staphylococcus aureus*, given therapy clindamycin and vancomycin. Patient was discharged after 35 days of treatment with clinical improvement, well-expanded lungs, and full duration vancomycin.

Conclusion : Pneumothorax is a serious complication with giant bullae, with progressive shortness of breathing. Clinicians must to differentiate between giant bullae and pneumothorax due to treatment decision, bullectomy or chest tube. Vancomycin administered according to presence of 2 qSOFA points and blood culture. Chest CT is mandatory in such Case.

Keywords :
Pneumothorax, giant bullae, bullectomy, sepsis.

Res-2-04

Sensitivity Patterns of Bacterial Pathogens Isolated from Blood Cultures of Under-Five Children with Pneumonia at RSUP Dr. M. Djamil Padang

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Background : Bacterial pathogens are becoming more and more resistant to antibiotics emerging threats to global health. Treatment options for pneumonia are limited due to the development of multidrug-resistant bacterial strains.

Methodology : This retrospective study was carried out for one year period (June 2022- June 2023) obtained from medical records. This study is aimed to determine the bacterial isolates obtained from blood of under-five pneumonia children. Children of aged under five years of either clinical and radiologically confirmed pneumonia were enrolled in this study, classified as complicated and non-complicated pneumonia.

Result : A total of 94 children were diagnosed with 87% of complicated pneumonia and 13% of uncomplicated pneumonia. Among them had performance of blood culture showed bacterial growth in 9% of complicated patients with 38% *Staphylococcus hominis,* 25% *Seratia marcesnent,* 13% *Staphylococcus cohnii,* and followed by *Staphylococcus epidermidis* and *Staphylococcus haemolyticus* 12%, respectively. Bacteria were resistance to benzylpenicillin and oxacillin in 75% of the Cases and Sulfamethoxazole trimethoprim in 62.5% Cases followed by Clindamycin 50%. Approximately 75% of sensitivity was obtained for Vancomycin, 62.5% for Gentamicin, and 50% for Tetracycline.

Conclusion : *Staphylococcus hominis* (gram positives) and *Seratia marcesnent* (gram negatives) were the main pathogens found in this study.

Keyword : Pneumonia, bacteria, antibiotic, resistance, sensitivity.

RES 14

The Pattern of Respiratory Tract Infection in Children Based on Panel Respiratory Result

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Objective: Respiratory tract infections nowadays become the main cause of children's morbidity, especially in this post-COVID-19 era, and appear in many clinical symptoms spectrum that makes them need to be admitted to the hospital. Especially in children, respiratory infections mainly caused by a series of bacteria and viruses, somehow lead to being challenging to differentiate the causative pathogen if only relying on the clinical symptoms that are most likely similar. This condition eventually affects the management and therapies that should be given to patients, including the hospital's length of stay. This study aimed to report the pathogen's pattern of respiratory tract infection in inpatient children based on panel respiratory's results.

Methodology: A cross-sectional study in Pediatric Department, Pondok Indah-Pondok Indah Hospital, Jakarta. Data was retrieved from medical records of children, aged ≤ 18 years old that were diagnosed with respiratory tract infections, who were admitted to the pediatric ward and intensive care unit between January 2023 to June 2023 and undergo the panel respiratory examination.

Results: The panel respiratory's results show us the main causative pathogen that caused respiratory tract infection in children. The most common pathogens found are *Rhinovirus*, *Influenza, Parainfluenza, Human metapneumovirus*, and *Mycoplasma pneumonia*.

Conclusion: This study shows that the panel respiratory examination could identify the causative pathogens in children's respiratory infections that lead to more effective and adequate treatment.

Keywords: Respiratory tract infection, panel respiratory

RES 16

Fluid Overload as a Predictor of High Flow Nasal Cannula (HFNC) failure in Pediatric Patients with Pneumonia

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Background: In critically ill patients, fluid overload is associated with increased mortality and cause complication such as respiratory distress. High Flow Nasal Cannula (HFNC) is one of strategies for non-invasive oxygen therapy for pneumonia with severe respiratory. However, there has not been any study describing fluid overload as a predictor of HFNC in children with pneumonia. This study investigated the role of fluid overload in predicting HFNC failure in pediatric patients with pneumonia.

Methodology: Cross-sectional study was conducted by calculating amount of cumulative fluid balance after discharge from PICU and the percentage of fluid overload events during PICU admission. Data was extracted from medical record pediatric patient with pneumonia from January to July 2023. The relationship between the two data variables was analyzed bivariate. Data analysis used SPSS ver.26, with $P < 0.05$ was considered statiscally significant.

Results: Eight patients had HFNC failure, in which Fluid Overload frequency events during PICU admission (OR=91.0; p=<0.001, 95% CI 4.9-1687.5) significantly related to HFNC failure in pediatric pneumonia patients. Eight patients with cumulative fluid balance more than 20%, all of them had HFNC failure.

Conclusion: Fluid Overload in frequency events is a predictor of HFNC failure in pediatric patients with pneumonia with severe respiratory.

RES 41

Miliary Tuberculosis in Infant Aged 45 Days

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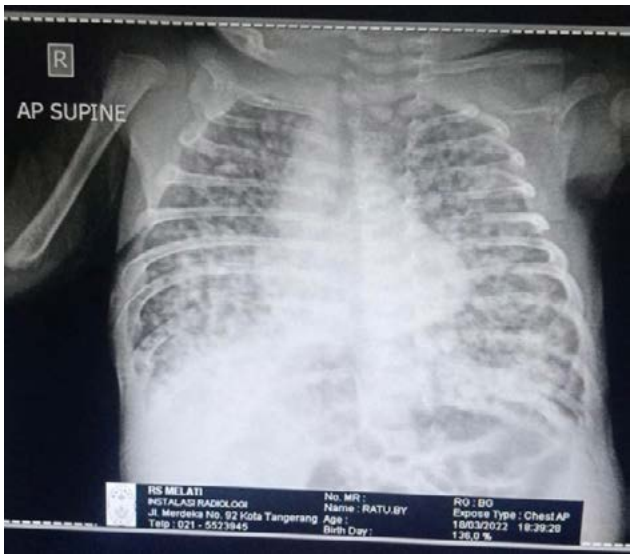
Background : Miliary tuberculosis is a potentially fatal form of disseminated disease due to the hematogenous spread of tubercle bacilli to the lungs and other organs. Miliary tuberculosis is caused by Mycobacterium tuberculosis. Miliary tuberculosis accounts for about 1 to 2% of all Cases of tuberculosis. They are typically sub-acute or chronic and very rarely can present acutely.

Case : A 45-days-old baby was admitted to ER with prolong fever, breathlessness, cough, and poor feeding. There was no problem with delivery. Baby hadn't received the BCG vaccination. Physical examination showed breathlessness and lethargy. Breath sound was ronkhi in both lungs. Organomegaly was not found. Chest radiograph showed a feature of miliary pattern with fine tubercles in both lung, that supported diagnosis of milliary TB. Ziehl Neelsen smear of gastric lavage yielded positive acid fast bacilli. Patient then diagnosed with TB with milliary pattern. Antituberculosis drugs (isoniazid, rifampicin, pirazinamide, and ethambutol) were given simultaneously with corticosteroid and antibiotics.
The patient was eventually died after receiving TB therapy for 25 days. Septic shock was worsened the condition of patient.

Conclusion : Due to the high morbidity and mortality associated with the disease, it is pertinent for the clinician to have a high index of suspicion for the disease, even in the setting of varied clinical presentations. A multi-pronged approach comprising of meticulous history taking, thorough clinical examination, radiological and laboratory investigation is required for early diagnosis and adequate treatment. Although there were no problems during labor, active investigation of TB possibility is required on the family as a source of TB.

Keywords: miliary, tuberculosis



RES 50

The Role of Adenosine Deaminase Test as Marker for Diagnostic of Tuberculous Pleural Effusion in Children : A Case Report

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Background
Pleural effusion due to tuberculosis is often not diagnosed with certainty in pediatric patients, even scoring systems has high bias. Acid Fast Bacillus (AFB) stain positivity is reported lower than 18%–38%, and PCR positivity is 14.3% in the pediatric population. Adenosine Deaminase (ADA) test has a high accuracy with sensitivity and specificity of up to 100% in high TB prevalence regions and in a patient with a high clinical suspicion of tuberculous effusion, an ADA value of >40 IU/L in a lymphocyte-predominant exudate carries a positive predictive value (PPV) of 98%.

Case reports
A boy weighted 25 kilograms came to the emergency room at Zainoel Abidin Hospital with complaints of shortness of breath since 1 week and worsened in 3 days before admission. The patient had cough accompanied by fever since 2 weeks before admission with night sweats, decreased appetite and weight loss. Physical examination revealed an asymmetrical chest wall, stem fremitus weakened in both of hemithorax, and weakened vesicular breath sounds in the left hemithorax. Adenosine Deaminase (ADA) examination: 50 U/L, positive Mantoux test, TB score is 5. Chest X-ray: massive left pleural effusion, right pleural effusion. The treatment given was oxygenation 2 L/minute nasal cannula, OAT 2HRZE/4HR, Prednisone 2 mg/kg/day, WSD installation/thoracentesis.

Conclusion
The diagnosis of tuberculous pleural effusion in children is generally quite difficult. Tuberculous pleural effusion deserves attention, especially in endemic areas. Diagnosis was confirmed after ADA examination. The treatment included OAT therapy, thoracentesis and prednisone.
Keywords : ADA Test, Tuberculous Pleural Effusion, Tuberculous Pleurisy, Tuberculosis

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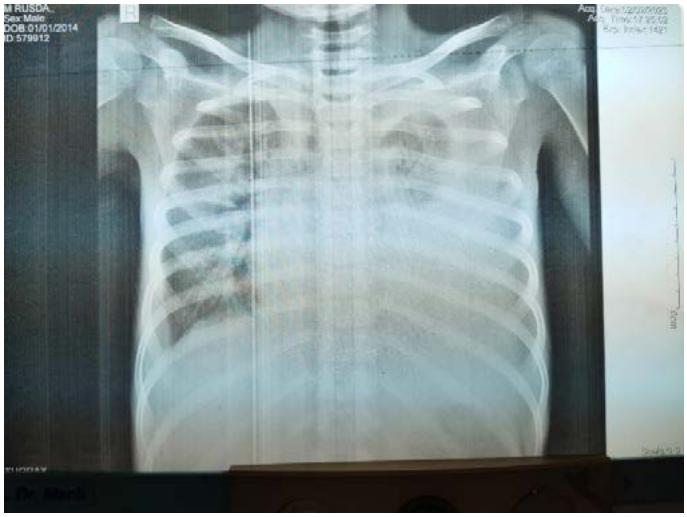

Patient’s Chest X-Ray

RES 59

Diagnosing Neglected Pertussis in Two Pediatric Case Reports during the Covid Era: How is The Prognosis

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Background: Pertussis, caused by *Bordetella pertussis*, is a re-emerging public health problem, especially for infants too young to be vaccinated and unvaccinated children, and a highly contagious human pathogen that causes whooping cough in infants and older children. Some Cases can be identified, but some Cases are challenging to identify.

Case: We present two Case series of pertussis infections in infants and toddlers of different ages in the pediatric ward of Aisyiyah Bojonegoro Hospital during the Covid-19 pandemic. First, a 4-years-9 months old boy presents with continuous cough for 5 days. In another Case, a 5-month 29-day-old girl had a cough and apnea; this was the second time she had these symptoms. Both of them were diagnosed with pertussis. These Case series aim to describe and compare the different clinical manifestations and prognoses in children of different ages. This occurs due to a lack of awareness about the disease, making recognizing and reporting pertussis symptoms and potential subclinical infections challenging.

Conclusion: It can be concluded that pertussis in children is often co-infected with pneumonia, infants are more susceptible to pertussis complications compared to older children regardless of immunization status, the complete 5-dose pertussis vaccination is effective in protecting children and there is no difference in therapy in infants and children. Therefore, if a child is found with a cough, we need to consider the possibility of pertussis infection.

Keywords: pertussis, pneumonia, prognosis, whooping cough, children

RES 43

Neutrophil-to-Lymphocyte Ratio as A Predictor of Very Severe Pediatric Community Acquired Pneumonia

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Objective: Neutrophil-to-Lymphocyte Ratio (NLR) has been shown as marker of immune response to various infectious and non-infectious stimuli. Higher NLR is associated with disease severity dan mortality. We determine to prove the predictive value of NLR in children with very severe Community Acquired Pneumonia (CAP).

Methodology: This cross-sectional study evaluated 127 children (1-18 years old), diagnosed as CAP, admitted at Dr Soetomo General Academic Hospital, Surabaya, from January to June 2023. Data were collected from medical records. Severe CAP is marked by tachypnea and retraction. Very severe Case is defined as severe CAP with general danger signs. Prognostic value of NLR was evaluated using the Receiver Operating Characteristic (ROC) Curve, cut-off point, and odds ratio (OR). Other risk factors studied (sex, age, and comorbid) were analyzed with logistic regression test. The level of significance was 0.05 (two-tailed study).

Results: The mean age was 4.26 (SD 5.01) years. Most prevalent age was 1-5 years (47.2%), and 60% were male. Very severe Case was 35.4%. Comorbidity of immunocompromised status and malignancy were 22% and 10% respectively. The absolute number of leukocytes in very severe CAP is higher ($p=0.009$). The absolute number and percentage of neutrophils were significantly different ($p<0.001$). The absolute number and percentage of lymphocytes in severe CAP is three times higher ($p<0.001$). The NLR in very severe CAP is seven times higher ($p<0.001$). From the AUC, NLR was the best predictor, with cut-off of 4.45.

Conclusion: NLR is a good predictor of very severe CAP in children with high accuracy.

Keywords: NLR, Pneumonia, CAP, Children.

RES 21

The Efficacy of Bubble CPAP in Low-Resource Settings Compared to Nasal Oxygen and Conventional CPAP: A Systematic Review

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Objective:
Conventional continuous positive airway pressure (cCPAP) has been used for respiratory distress. Its unaffordability has made nasal oxygen an alternative in rural areas. Bubble CPAP (bCPAP) is known to be cheaper than cCPAP and more effective than nasal oxygen. We aim to learn the efficacy of bCPAP compared to cCPAP and nasal oxygen.

Methods:
Literatures were searched and reviewed by 5 authors independently. Samples included were newborn babies and children with respiratory distress. Samples receiving bCPAP were included in the intervention group whereas cCPAP or nasal oxygen in the control group. Outcomes assessed were mortality, survival rate, duration of hospital stay, CPAP success and failure rates, and complications.

Results:
bCPAP demonstrated a lower rate of mortality with higher survival rate in five articles against nasal oxygen and three against cCPAP. Two articles reported non-inferiority of bCPAP as compared to cCPAP. Two articles demonstrated higher CPAP success rates with bCPAP compared to cCPAP. Four articles indicate that the CPAP failure rate is lower for bCPAP compared to cCPAP and one to low-flow nasal oxygen. Five articles indicate hospital stay in bCPAP group is shorter compared to nasal oxygen or cCPAP, three indicate it to be longer, and one shows it to be equivalent to the high-flow nasal oxygen. The incidence of complications due to bCPAP was not significantly different from cCPAP and nasal oxygen.

Conclusion:
bCPAP and cCPAP have similar efficacy compared to nasal oxygen for newborn babies and children with respiratory distress. bCPAP is most beneficial for use in low-resource settings.

Keywords: efficacy, low-cost CPAP, inexpensive CPAP, bubble CPAP

RES 56

The Profile of Pleural Effusion-Associated Pulmonary Tuberculosis Among Children in Prof. Dr. R. D. Kandou General Hospital Manado

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Background: Tuberculosis (TB) is a leading cause of child morbidity and mortality particularly in developing countries. Data of Indonesia in 2019 reported 29.153 Cases of TB among children aged 0-14 years with 80% death occurred under 5 years. Early diagnosis is needed to reduce preventable child deaths. Pleural effusion is one of the suggestive radiologic finding of TB among children. This study aimed to obtain the profile of pleural effusion-associated pulmonary TB among children.

Methodology: Between June 2019 to June 2023, a retrospective cross-sectional study was conducted among children under 18 years old with pulmonary TB at Prof. Dr. R.D. Kandou General Hospital Manado. Baseline data including gender, age, tuberculin skin test (TST), tuberculosis score, and nutritional status were collected. The proportion of each variable were evaluated in relation to the radiograph finding.

Result: Among 125 patients, 20.8% patients developed pleural effusion. Majority of the patients were male (n = 17; 65%) with 57% were in age of 10 to 18 years old. From clinical symptoms, all patients came with respiratory symptoms and 76% were accompanied with shortness of breath. Tuberculosis scores higher than 5 and positive TST result were the dominant findings. While most of the patients were undernutrition, there were considerably 9 out of 26 (35%) patients with good nutrition, developing the pleural effusion-associated pulmonary TB.

Conclusion: Pleural effusion was one of the frequent findings among children with pulmonary TB. More studies are required to further analyze the correlation between clinical examinations with pleural effusion-associated pulmonary tuberculosis.

Keywords: pulmonary tuberculosis, effusion pleura, children

RES 57

Quality of Life in Tuberculosis Children : A Cross-Sectional Study

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Background
Tuberculosis (TB) is an infectious disease that affects the quality of life of patients, especially children. This study aims to describe the quality of life of pediatric TB patients before and after treatment.

Methodology
A cross-sectional study was performed in Kandou Hospital Manado from January until July 2023. A total of 30 children with a diagnosis of tuberculosis were sampled in this study. Quality of life is measured by PedsQL (Pediatric Quality of Life Inventory). Paired t test was used to see differences in quality of life scores before and after treatment. Statistical analysis using chi square with p value < 0.05 considered being significant and odds ratio > 1 considered have causal effect.

Results
The results showed that quality of life scores on the subscales of physical functioning, emotional functioning, social functioning and school functioning were significantly higher after treatment than before starting treatment. The mean (SD) after treatment was physical function 78.02 (13.06), emotional function 73.33 (20.85), social function 72.0 (21.03), school function 75.83 (20.51), psychosocial function 73.72 (12.06) and a total score of 74.79 (10.29). The mean (SD) before treatment was physical function 67.81 (20.42), emotional function 57.66 (24.86), social function 60.5 (23.82), school function 61.83 (23.39), psychosocial function 60.0 (10.92) and a total score of 61.95 (9.33). p value subscale before and after treatment were 0.017, 0.021, 0.044, 0.035, 0.000, 0.000 respectively.

Conclusion
The quality of life of tuberculosis children after treatment is better than before treatment.

Keywords: tuberculosis

RES 71

Association of Pneumonia with Other Diseases Among 1–59-Month-Old Patients at Sumber Waras Hospital Jakarta: A Case Control Study

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Background: Pediatric pneumonia is still one of the main causes of morbidity and mortality in children under 5 years old, especially in developing countries. Pneumonia in Sumber Waras Hospital commonly coexists with other infections or non-infection diseases, undernutrition, and anemia. This study aimed to analyze the association between pneumonia and those comorbid diseases.

Methodology: A Case-control study using 259 data from medical records among 1 to 59-month-old patients in January until June 2023 in Sumber Waras Hospital Jakarta. We analyzed the most common diseases in our hospital, such as gastroenteritis, UTI, epilepsy, GDD, phymosis, and morbilli. Undernutrition is classified by the WHO z-score classification. Anemia is classified based on severity (mild, moderate, or severe) and types (normocrom-normocytic and microcytic hypocrom) with Hb and MCV values. All the data was analyzed with SPSS version 25.

Results: Pneumonia has a significant association with both gastroenteritis and UTI (p-value <0.05). There is no association between pneumonia and non-infectious disease, undernutrition, or anemia. But there is a significant association between pneumonia and socioeconomic class (p-value <0.05).

Conclusion: Pneumonia indicates that it disrupts the immune system, making pediatric patients more vulnerable to other infectious diseases and also contributing to socioeconomic class. A healthy lifestyle and personal hygiene are recommended to prevent all infectious diseases.

Keywords**:** *pediatric pneumonia, infectious disease, Indonesia*

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Res-2-07

An Undetected Congenital Diaphragmatic Hernia : A Case Report

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Background
A diaphragmatic hernia is a protrusion of abdominal contents into the thoracic cavity due to a defect within the diaphragm. It is most common as a congenital phenomenon. However, there have also been Cases where it can be acquired, or even being undetected as late presenting beyond the neonatal period which is rare and often misdiagnosed, with delayed treatment.

Case
A-1-year-old-boy, 7,5 kg body weight, 82 cm body height, complete immunization status, suspected of Diaphragmatic Hernia was reffered from other hospital. The patient primary complaint was productive cough that has occured past a week before hospital admission. He also have rhinorrhea and a history of intermediate fever a few days before. The parents said he have no history of respiratory distress syndrome of newborn or trauma. The vital signs are: heart rate 127x/minute, respiratory rate 38x/ minute, temperature 37,1 ºC and 99% of oxygen saturation with 1 L/minute oxygen. Subcostal rectraction and bilateral rhonchi are found during physical examination. Thorax x-ray showed left bronchopneumonia and left phrenicus nerve parese's suspect. CT Whole Abdomen with contrast concluded a left diaphragm hernia. The laboratory findings showed hemoglobin 11,4 g/dL, hematocrite 33,7%, random blood sugar test 105 mg/dL, positive qualitative CRP. He then went through a surgery procedure entitle thoracotomy approach for abdominal-thoracal repair of sinistra Bochdalek foramen defect. The patient was placed with mechanical ventilation and treated with sedation and antibiotics in PICU after the surgery and continue to showing improvement.

Conclusion
In contrast to the high mortality and morbidity rates for neonatal CDH, the prognosis for late-presenting congenital diaphragmatic hernia if diagnosed earlier is usually favorable.

Keywords
Late Presenting Congenital Diaphragmatic Hernia

RES 04

Neutrophil-Lymphocyte Ratio and Platelet-Lymphocyte Ratio Correlate with the Severity of Asthma Exacerbations in Children

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Background
Asthma is a chronic disease of the airways characterized by inflammation. Neutrophil-lymphocyte ratio (NLR) and platelet-lymphocyte ratio (PLR) are tests used to evaluate systemic inflammation and have recently been evaluated in various chronic diseases. This study aimed to investigate the correlations of NLR and PLR with the severity of asthma exacerbations in children.

Methodology
An analytic observational study was conducted with a cross-sectional approach with children aged 1–18 years with a diagnosis of asthma exacerbation who were hospitalized at Prof. Dr. R.D. Kandou Manado. Logistic regression analysis and ROC analysis were used to assess the correlation between NLR and PLR with the severity of asthma exacerbations.

Results
Ninety-one samples met the inclusion and exclusion criteria, consisting of 48 people with mild-moderate exacerbations. 43 people had severe exacerbations, and none had life-threatening attacks. The obtained odd ratio between NLR and PLR for severe asthma attacks was 1.18 ($p = 0.011$) and 1.003 ($p = 0.050$). The threshold values of NLR and PLR to determine the severity of severe asthma attacks were 4.45 (62.8% sensitivity and 68.7% specificity) and 169.5 (62.8% sensitivity and 66.7% specificity).

Conclusion
There are significant correlations between NLR and PLR with the degree of asthma exacerbation. Increasing NLR and PLR values will increase the likelihood of severe asthma exacerbations.

Keywords: asthma, asthma exacerbation, neutrophil-lymphocyte ratio, platelet-lymphocyte ratio

RES 11

Pleuropneumonia with Seizure and Nephritic Syndrome Complications in Children: a Case Report From Type C Hospital in Central Sulawesi

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Objective: Pleuropneumonia takes a prominent place in paediatric morbidity. The most frequent causes of pleuropneumonia are Staphylococcus aureus and Streptococcus pneumonia. Nephritic syndrome, which presents with seizures or decreased consciousness, can be a consequence of Streptococcus pneumoniae infection.

Case: A 10-year-old girl with headaches, and ten times of tonic-clonic seizures. The patient has history of coughing for longer than a month, shortness of breath, and has never previously experienced seizures. From physical examination, delirium was found with no symptoms of meningeal sign. Our Department suspects intracranial processes are the cause of seizures and delirium. The imaging findings of the CT scan was possibility of cerebral edema. Examination of the chest x-ray for indications history of cough, was found Bilateral Pleuropneumonia. Therefore TCM was performed and the outcome was negative. Following that, consultation with the Psychiatric Department was conducted to ensure that the seizures were not caused by the use of psychotropic drugs. For this reason, urinalysis was required to perform psychotropic substance screening. But later when we wanted to take a urine sample, we got a sample of gross hematuria.

Conclusion: Major Streptococcus pneumoniae infection, continues to be a serious consequence of nephritic syndrome in children and causes hypertensive encephalopathy with seizures and/or loss of consciousness. In order to detect the presence of post-streptococcal glomerulonephritis (PSGN), the clinician should always examine the blood pressure and urine in Cases of seizures and history of pneumonia. PSGN typically presents with features of the nephritic syndrome such as hematuria, hypertension, and edema.

Keywods: Pleuropneumonia, Seizure, Nephritic Syndrome, PSGN

RES 18

Chronic Atelectasis as a Rare Complication of Tuberculosis in a 1-Year-Old-Child: A Case Report

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Objective: Tuberculosis (TB) is a disease caused by infection of *Mycobacterium tuberculosis*, which affects lungs and other organs. In 2020, an estimated 10 million people suffer from TB worldwide, 1.1 million of whom are children. TB has a complex pathogenesis that can cause various complications, one of its rarest complications is atelectasis.

Case: A 1 year old boy was brought to the hospital due to worsening shortness of breath since one week prior. Shortness of breath and coughing had been reappearing since 3 months ago. It appeared that the chest wall on the right is concave and the chest wall was asymmetrical when breathing since 3 months ago. History of pulmonary tuberculosis treatment for 9 months was completed starting at the age of 8 months. Physical examination revealed tachycardia, tachypnea, low oxygen saturation, chest retraction with the right chest wall lagging behind compared to the other side, crackles on both sides, and faintness in percussion in the right lung. Laboratory analysis revealed leukocytosis and respiratory acidosis. Plain chest radiograph showed consolidation, partial collapse of the right lung, and minimal bilateral pleural effusion. The patient was diagnosed with atelectasis of the right lung due to TB. The patient experienced respiratory failure, therefore mechanical ventilation was carried out in the intensive care room. Symptomatic medical treatment and chest physiotherapy were given. After undergoing the 16th day of treatment, the patient passed away.

Conclusion: Chronic atelectasis should be considered as a complication of TB albeit its rarity. Early recognition and treatment are important.

Keywords**:** atelectasis, Case report, complication, pediatric, tuberculosis

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RES 42

Inappropriate of The Pulmonary TB Scoring System to GeneXpert in Children with Miliary TB: Case Report

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Background: Diagnosis of pulmonary tuberculosis (TB) in children is still a challenge. One of the commonly used clinical TB diagnostic methods is the scoring system method. Microbiological diagnosis was carried out using by the GeneXpert method. Even though samples are difficult to obtain in children and sometimes not clinically appropriate, bacteriological examination should still be attempted. This Case aims to illustrate the discrepancy between TB scoring and GeneXpert results in a child with miliary TB.

Case: A 14 years old girl was admitted to the hospital with fever since 2 months ago, it is difficult to gain weight with poor nutritional status. TB contact denied. No enlarged lymph nodes or joint swelling was found. Chest X-ray suggesting miliary TB. The TB scoring evaluation obtained a value of 3 but on GeneXpert MTB/RIF it was found that MTB detected medium Rifampicin sensitive.

Conclusion: Miliary TB is a form of TB with severe clinical symptoms and accounts for 3-7% of all TB Cases, with high mortality and transmission rates (up to 25% in infants) and around 20-40% in children. In this Case, the results of the TB scoring system did not match the GeneXpert results, because the Mantoux test was not performed because the patient was already receiving TB therapy. Therefore, it is important to seek GeneXpert testing in children with suspected TB.

Keywords: TB Scoring System, Miliary TB, GeneXpert

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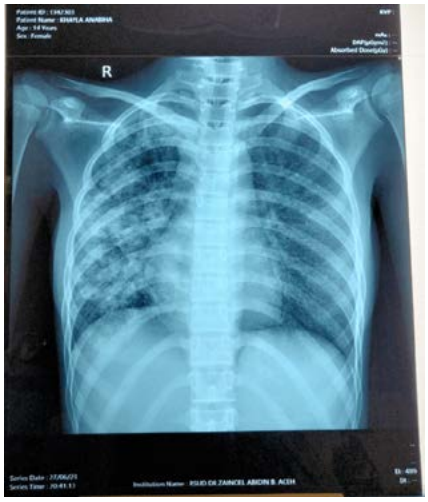
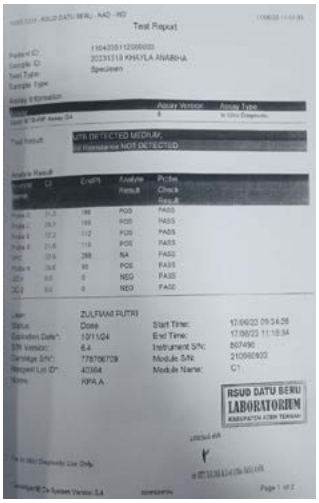
ATTACHMENT

Thorax X-Ray June 15th 2023



Thorax X-Ray June 27th 2023



Xpert MTB/RIF Assay June 17th 2023

RES 52

Blessing in Disguise: Foreign Body Aspiration Coincidentally Found in Asymptomatic Child Previously Prepared for Head MRI

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Background: Foreign body aspiration is the critical and emergency in children. The clinical symptoms may differ from mild to severe or life-threatening. Unfortunately, some of the Cases are unwitnessed and asymptomatic. Some also found accidentally when they were planned for other diagnostic procedure. We present such Case of a pin needle aspiration in asymptomatic child previously planned for brain MRI. This Case shows us that sometimes foreign body aspiration is not always symptomatic and unpredictable.

Case: A 3-year-old-girl was referred to our hospital due to suspected foreign body (FB) aspiration in the right lung. She was diagnosed as Global Developmental Delayed and referred by a paediatrician for brain MRI in other hospital. Prior to MRI, the radiologist performed a plain CXR that showed a tiny straight opaque shadow in the right lung. She was then referred to our hospital and underwent flexible bronchoscopy. We found severe granulation tissues covering the FB. The tissues were resected with Holmium laser and finally we succeed extracted a pin needle from the anterior branch of right lower bronchus. There was no complication found after the procedure.

Conclusion: Foreign body aspiration can be occurred unwitnessed and asymptomatically. In this Case, it was coincidentally suspected from CXR prior to brain MRI procedure.

Keywords: foreign body aspiration, coincidentally, chest x-ray, flexible bronchoscopy

RES 53

Congenital Supraglottic Cyst: A Rare Cause of Stridor

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Objective: Congenital supraglottic cyst is a very rare cause of stridor in infants with incidence < 1.8 per 100.000 births. A large cyst can cause potentially life-threatening airway obstruction. Prompt diagnosis and appropriate management are needed to avoid increased morbidity and mortality. This is Case report about stridor in infant due to congenital supraglottic cyst and the steps for diagnosis and management.

Case: A 3-month-old baby was referred with complaints of snoring from birth and frequent choking while feeding. It was difficult for the patient to gain weight, only gaining 200 grams since birth. From physical examination, there was stridor on inspiration and moderate retraction of the chest wall. The patient was suspected of laryngomalacia. Bronchoscopy was performed and a supraglottic cyst was found. Aspiration was carried out and thick clear liquid was obtained which was difficult to withdraw. The patient was then monitored in the intensive care unit after the procedure and underwent excision of cyst capsule by ENT. On bronchoscopy evaluation 2x24 hours later, it was found that the cyst had disappeared and clinically patient's stridor had decreased.

Conclusion: Congenital supraglottic cysts are extremely rare and the diagnosis can be either missed or misdiagnosed with more common causes of stridor, such as laryngomalacia. Supraglottic cysts may cause total airway obstruction and even death if they are large enough and not treated immediately. Bronchoscopy is a gold standard procedure in Cases of infants with stridor. Prompt diagnosis can direct minimally invasive therapy so that further airway obstruction can be avoided.

Keywords: stridor, bronchoscopy, supraglottic cyst.

RES 46

The Relationship Between BCG Immunization Status and Nutritional Status on Bacteriologically Confirmed Tuberculosis Incidence in Children at Hasan Sadikin Hospital Bandung

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Background: Tuberculosis is an infectious disease that is the main cause of health problems and causes a high incidence of morbidity and mortality. Some studies show that severe malnutrition and low immunization status (having not received the BCG vaccination) can be associated with Tuberculosis incidence.

Methodology: This study is an analytical retrospective study using data from the medical records of all pediatric patients treated in the pediatric ward of Hasan Sadikin Hospital Bandung from January 1, 2022, to December 31, 2022, who have confirmed diagnoses.

Result: From 58 data points, the age distribution of patients 0–5 years was 12 (20.7%), 6–11 years was 5 (8.6%), and 12–18 years was 41 (70.7%); male sex was 19 (32.8%), and female was 39 (67.2%). The number of patients who have been vaccinated against BCG is 46 (79.3%), and those who have not been are 12 (20.7%). The nutritional status of severe malnutrition was 18 (31.0%), moderate malnutrition was 10 (17.2%), good nutrition was 27 (46.6%), and the risk of overweight was 3 (5.2%). The results of statistical tests in the research group above obtained information on the value of P on the variables Age and Sex greater than 0.05 (value $P > 0.05$), which means insignificant or meaningless. Similarly, the nutritional status of the incidence of tuberculosis obtained a value of $p > 0.05$, which shows no statistical significance.

Conclusion:BCG vaccination status and nutritional status of patients have no relation to the incidence of bacteriologically confirmed tuberculosis.

RES 47

Pnemonia Complicated by Pulmonary Hypertension in Single Center in Malang

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Objective: Pulmonary Hypertension (PH) is a complex disorder characterized by elevated pulmonary arterial pressure, leading to right ventricular dysfunction and increased morbidity and mortality. When compounded with pneumonia, the clinical challenges intensify due to the compromised pulmonary circulation. This prevalence study aimed to assess the pneumonia incidence with clinical findings of pumonary hypertension, cardiomegaly, and cardiac failure in single centers in Malang

Methodology:
A retrospective review of medical records was conducted for pediatric patients admitted to Saiful Anwar General Hospital between March 2022 and July 2023. Data related to gender, age, underlying heart disease as a result from an echocardiography, chest x-ray, and clinical finding of cardiac failure. The study included 110 pediatric patients with confirmed PH and pneumonia concurrently.
Results : The mean age of neonates was 7.5 days and above neonatal age was 43.8 months and 60(54.5%) were females. Of the 110, 88(80%) had pneumonia, and 60(68,1%) also had PH. All of the patient with cardiac failure 31(100%) accompanied by pneumonia compared to 54 of 60(90%) patient with pneumonia displaying cardiomegaly.

Conclusion: The prevalence of pneumonia in the PH population emphasizes the importance of vigilance for respiratory infections in this vulnerable group. It could weaken the immune response and impair lung function, potentially increasing susceptibility to infections like pneumonia. The condition of cardiac failure that may contribute, also becoming a supporting factor. These findings contribute to a better understanding of the interrelationship between PH and pneumonia, prompting the need for early recognition, tailored management, and further research to enhance the outcomes.

Keywords **:** pneumonia, pulmonary hypertension, cardiac failure

RES 12

Clinical Profile of Children with Congenital Heart Disease Underwent Bronchoscopy in Cardiac Intensive Care Unit Cipto Mangunkusumo General Hospital

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Background: Children with congenital heart disease (CHD) will require surgery during infancy and childhood. Most frequent complication after surgery was prolonged postoperative mechanical ventilation. Bronchoscopy is a safe and feasible examination to diagnose and guide treatment for children with suspected airway problems after cardiac surgery.

Methods: A retrospective descriptive study was performed in children with CHD post-cardiac surgery treated in Cardiac Intensive Care Unit Cipto Mangunkusumo Hospital who underwent bronchoscopy during June 2022-May 2023.

Results: During study period, 9 of 352 patients (0.02%) underwent bronchoscopy procedure, with total of 10 bronchoscopies from 9 patients. Six of 9 patients were male, the median age was 9.5 (5-36) months, and 4 of 9 patients were having cyanotic heart diseases. Bronchoscopy indications were ventilator dependency (5), biphasic stridor (1), persistent wheezing (1), and findings from radiography (4). Bronchoscopy findings were tracheobronchitis (2), bronchus or tracheal stenosis (5), excessive dynamic airway collapse (1), hypersecretion (5), white plaque (4), and bleeding or blood clot (1). Microorganism culture and resistance from bronchoalveolar lavage were carried out from all patients, with most common microorganisms were *Acinetobacter sp*. and *Burcholderia cepacia*. Antibiotic was changed in five patients based on culture and resistance result. The most frequent complication during bronchoscopy was desaturation, however it was resolved after retracting the scope immediately.

Conclusion: Bronchoscopy is a feasible and beneficial examination in diagnosing and managing airway problems in patients with CHD after cardiac surgery.

Keywords**:** bronchoscopy, airway, congenital heart disease

RES 51

Demographical Characteristics of Pediatric Tuberculosis Patients in Outpatient Clinic of Prof. R. D. Kandou General Hospital

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Background: Indonesia has one of the highest prevalence of tuberculosis. This is due to several factors, including poor medication compliance, HIV, and prevalence of drug resistant strain. Therefore, understanding the demographic data for tuberculosis patients could improve treatment outcomes and compliance.

Method: This retrospective observational descriptive study was conducted involving pediatric tuberculosis patients aged <18 years old in Prof. Dr. R. D. Kandou General Hospital from January 2020 – June 2023. Demographical data such as age, gender, type of tuberculosis, HIV status, and resistance to rifampicin was collected.

Result: a total of 107 patients was included in the study. Median age was 12 years old. Most of the patients were male (n=67;62.6%).The number of clinically diagnosed Cases were higher as the bacteriologically confirmed Cases (74.8% vs 25.2%). One patient had history of previous TB infection, and one Case had extrapulmonary tuberculosis. One Case tested positive for HIV. We detected no rifampicin resistance. One patient died while on treatment duet to the complication of the disease.

Conclusion: In our center, pediatric tuberculosis is mostly diagnosed clinically, as many pediatric tuberculosis produced low to no sputum. There were no rifampicin resistance in our Case. Therefore, standard pediatric tuberculosis regiment is still recommended.

Keywords: Demography, Indonesia, Tuberculosis

Res-2-09

Significant Decreasing of Paediatric Tuberculosis Cases during COVID-19 Pandemic at Dr. Achmad Mochtar Secondary Level Hospital

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Background: COVID-19 pandemic affected essential tuberculosis (TB) services around the world, including paediatric TB in hospital level. The study aimed to describe profile of paediatric TB before and during COVID-19 pandemic at paediatric outpatient in Dr. Achmad Mochtar Hospital Bukittinggi, West Sumatera, Indonesia

Methods: We performed descriptive retrospective study, from the medical record data of paediatric TB outpatients during 2017-2022. Age, gender, classification of TB diagnosis, symptoms and signs were collected. We also compared the total Cases before (2017-2019) and during (2020-2022) COVID-19 pandemic.

Results: Subjects diagnosed with paediatric TB were 164 children, most of them were 5-14 years (56.1%) and male (53%). Pulmonary TB were 65.9%, and majority of them were diagnosed using Indonesian paediatric TB scoring system (68.9%). The most common symptom, were cough ≥ 2 weeks (75%), followed by malnutrition (70.1%), and fever ≥ 2 weeks (55,5%). Lymph node enlargement were 51.8%, and none of swelling joint or bone. Positive tuberculin skin test were revealed in 62.2% and chest x-ray showed suggestive TB in 25.6%. In comparative analysis, we found that the number of paediatric TB Cases had decreased significantly ($p<0.01$) during COVID-19 pandemic reach to 70% compared to before. However, the trend of paediatric TB Cases increased again in year 2022 more than 100%.

Conclusion: There were significant decreasing of paediatric TB Cases during COVID-19 pandemic, but increased sharply in 2022.

Keywords: COVID-19, paediatric tuberculosis

Gastro 24

Evaluation of Constipation Management in Children using Pediatric Bowel Management Scoring Tool (PBMST) in Dr Soetomo General Hospital

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Background: Constipation is a common problem in children and frequently found by healthcare professionals. Constipation can affect the quality of life of children and their parents. It also has an impact on health costs. Pediatric Bowel Management Scoring Tool (PBMST) is a questionnaire which allows health care professionals and patient care givers to evaluate constipation management in children. This study's aim is to evaluate constipation management of patients in Gastroenterology outpatient clinic Dr Soetomo General Hospital.

Methodology: This is an analytic observational study. Patients who were at the age of 4-18 and received constipation management from Gastroenterology outpatient clinic were interviewed using Pediatric Bowel Management Scoring Tool (PBMST) by phone. We evaluate the correlation between duration of constipation management and PBMST score using Spearman Correlation Analysis by SPSS 25.

Results: There were 17 patients involved in this study. The youngest was 4 years old and the oldest was 17 years old (10.12 ± 4.1) with duration of treatment was 3 until 54 months (11.76 ± 11.74). All patients have PBMST score categorized as fair (0-5) with Mean-SD of PBMST score was 1.76 ± 2.16. This study revealed that duration of constipation management and PBMST score were not statistically correlated ($r = 0.157$, $p = 0.547$).

Conclusion: There is no correlation between duration of constipation management and PBMST score. However, this PBMST still can be used to evaluate constipation management in children.

Keywords**:** Constipation, Constipation Management, Pediatric Bowel Management Scoring Tool, Quality of Life

Gastro 33

Magnetic Resonance Enterography and Video Capsule Endoscopy In Diagnosing Small Bowel Crohn's Disease in Pediatric

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Background: Crohn's disease (CD) is a chronic inflammatory bowel disease (IBD) involving any part of the gastrointestinal tract from the mouth to the anus. One-third of all CD Cases involve only the small bowel. Diagnosing isolated small bowel Crohn's disease is difficult and very challenging.

Case: First Case, a 15-year-old boy with a history of chronic bloody diarrhea and weight loss followed by chronic abdominal pain. Second Case, a 12-year-old boy with a history of recurrent anemia and growth failure. Neither of history of chronic bloody diarrhea nor chronic abdominal pain. Fecal calprotectin (FC) as a surrogate marker of intestinal inflammation within normal limits in both Cases. Based on the standard clinical and laboratory tests, we suspected IBD (Crohn's disease). Esophagogastroduodenoscopy (EGD) and ileocolonoscopy (IC) with biopsies were performed with no remarkable results. Magnetic resonance enterography (MRE) was performed in the first Case and showed a bowel wall thickening in the jejunum-proximal ileum and increased vascularity of the mesentery (Coomb's sign). Video capsule endoscopy (VCE) was performed in the second Case and showed a multiple ulcer and inflammatory polyp in the jejunoileal.

Conclusion: The findings in both Cases were consistent with small bowel Crohn's disease. All children diagnosed with Crohn's disease should undergo small bowel evaluation. Imaging of the small bowel is required not only for diagnosis, but also for monitoring and evaluation of the disease's location, severity, activity, and complications.

Keywords: pediatric, small bowel, Crohn's disease, magnetic resonance enterography, video capsule endoscopy

Figure 1. The Coomb's sign from magnetic resonance enterography (MRE) in the first Case

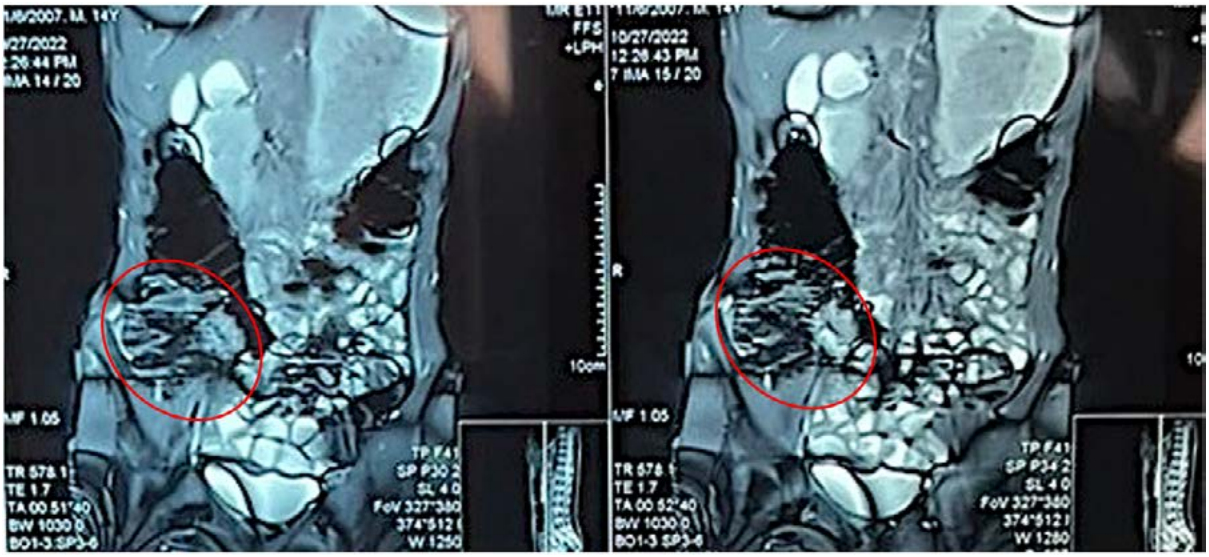
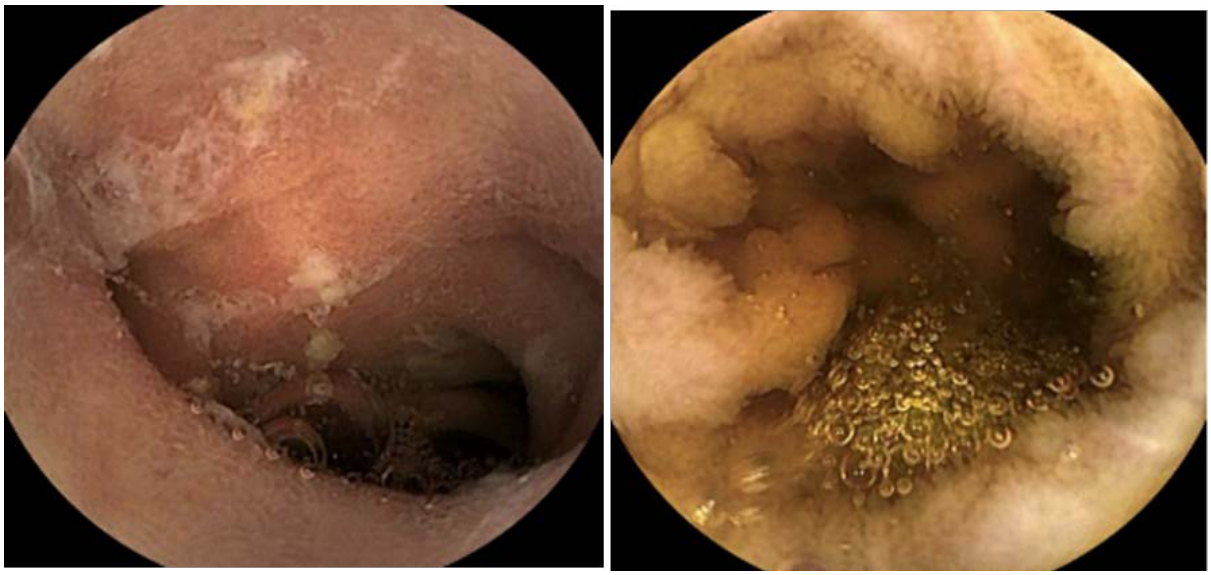


Figure 2. The video capsule endoscopy showed an ulcer (left) and inflammatory polyp (right) in the second Case



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Relationship between Serum Albumin Level with Serum Albumin/Bilirubin Ratio in Neonates with Hyperbilirubinemia

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Introduction: Hyperbilirubinemia, an imbalance in bilirubin metabolism, leads to its accumulation causing jaundice. High bilirubin can raise neonatal mortality, morbidity, and neurological issues. Albumin aids bilirubin excretion from the liver. Low albumin associates with increased hyperbilirubinemia mortality in newborns. This study examined the relationship between serum albumin levels and the serum bilirubin/albumin ratio in neonates with hyperbilirubinemia, specifically focusing on those with sepsis and respiratory distress (RD).

Method: This study was a cross-sectional study involving newborns diagnosed with sepsis and RD at Prof. Dr. R. D. Kandou Manado General Hospital from February 2023 to May 2023. The data collected in this study includes albumin levels, bilirubin levels, bilirubin/albumin ratio.

Results: The study included 110 hyperbilirubinemic infants, 28.2% with sepsis, 34.5% with RD, and 37.3% with both. Correlation tests revealed significant negative correlations between bilirubin/albumin ratio and serum albumin levels across patient groups. In the sepsis group, $r = -0.554$ ($p < 0.001$), RD group $r = -0.344$ ($p = 0.035$), and sepsis-RD combination group $r = -0.344$ ($p = 0.035$). The bilirubin/albumin ratio correlated with NICU stay. In sepsis group: $r = 0.421$ ($p = 0.008$); RD group: $r = 0.392$ ($p = 0.029$); sepsis-RD group: $r = 0.318$ ($p = 0.043$)

Conclusion: There was significant relationship between serum albumin values and bilirubin/albumin ratio in neonates with sepsis and RD who experience hyperbilirubinemia. There was relationship between the ratio of bilirubin to albumin and length of stay in neonates with sepsis and RD who experience hyperbilirubinemia.

Keywords: Hyperbilirubinemia, respiratory distress, sepsis, albumin, neonates

Gastro 45

Sheffield Score as A Diagnostic Test in Children with Upper Gastrointestinal Bleeding: A Retrospective Study

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Background: Upper gastrointestinal bleeding (UGB) is a life-threatening condition in children that needs immediate treatment. Endoscopy is the gold standard for diagnosing gastrointestinal bleeding, but it is invasive, expensive, and not always available in some health facilities, especially in remote areas. In children, the Sheffield score can be used to predict the need for endoscopic intervention. This study aimed to evaluate the accuracy of the Sheffield score in determining the need for endoscopic intervention.

Methods: A cross-sectional study was conducted at the Pediatric Department, Mohammad Hoesin Hospital, Indonesia. Clinical and other relevant data from all children aged 1-18 who presented with UGB during June 2018-June 2023 were collected. The Sheffield score of subjects who underwent endoscopy was calculated and compared among groups.

Results: Fifty-seven patients were included in the study. The majority of subjects were female (50.88%). The mean age of all subjects was 9.48 years, with hematemesis as the main complaint (42.10%). This study found that 43.86% of the subjects had Sheffield score >8. Therapeutic endoscopic was performed in 33.33% of Cases. Using the cut point of 8, the sensitivity of the Sheffield score was 84.21%, the specificity was 76.31%, the positive prediction value was 64%, the negative prediction value was 90.62%, and the accuracy was 78.94% for predicting the need for endoscopic intervention.

Conclusion: The Sheffield score could be used to predict the need for endoscopic intervention in children with UGB with adequate sensitivity, specificity, and accuracy.

Keywords**:** child, Sheffield, upper gastrointestinal bleeding, endoscopy

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Identification of Risk Factors Affecting the Outcome of Acute Diarrhea with Severe Dehydration in Children.

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Background. Diarrhea is a major health problem in the child population worldwide. It is known that deaths due to diarrhea mainly occur in conditions of severe dehydration. Several conditions or risk factors can exacerbate diarrhea with severe dehydration can cause death. This is study aimed to identify and determine the magnitude of risk factors that affect the outcome of acute diarrhea with severe dehydration in children.

Method. Study used retrospective cohort method. The statistical analysis was using multivariate test with logistic regression.

Result. The population in this study was pediatric patients aged 1 month to 5 years with severe acute diarrhea with a total of 109 subjects. Based on the statistical analysis, there were only four risk factors that affected the outcome of children with acute severe dehydration; history of not drinking ORS (oral rehydration solution) in home with OR 163,530 (95% CL 11,075 - 2414,700), Increase of fecal leukocytes >10 LPB with OR 22,861 (95% CL 4,282 - 122,063), Age 1 month-2 years with OR 15,233 (95% CL 2,449 - 94,739), and hypo/hyper sodium levels with OR 5,003 (95% CL 1,071 – 23,365). The outcome probability of death in children with acute diarrhea with severe dehydration if all four risk factors present is 55.8%

Conclusion. The risk factors for death in acute diarrhea with severe dehydration in children are; children who do not receive ORS at home or are given inadequate ORS, the condition of fecal leukocytes > 10, age, and imbalance sodium blood levels.

Keywords: Risk Factors, Acute Diarrhea, Severe Dehydration, Children.

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Protein Pump Inhibitor Prophylaxis for Stress Ulcer on Critically Ill Children: A Meta Analysis

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Background As one of the top 10 drugs prescribed, Protein Pump Inhibitor (PPI) sometimes serve as prophylaxis for preventing stress ulcers. The risk/benefit ratio of PPI usage is uncertain, yet, the use is widespread. This study aims to describe the use of PPI for stress ulcer prevention in critically ill children.

Method Articles were obtained from PubMed, Embase, Cochrane and Google Scholar. Full text articles with a Randomized Control Trial study design was analysed according to the PRISMA flow chart and analysed using Review Manager 5.4. Population in this study is children with critical ill conditions (PICU settings). The intervention is PPI as prophylaxis with outcome presence of GI bleeding as presentation of stress ulcer and mortality.

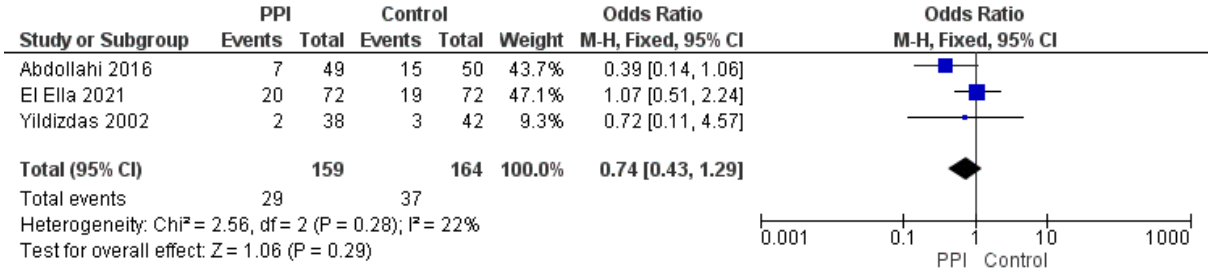
Result Three relevant RCT papers were included in our analysis. The total sample in the study was 323 subjects consisting of 159 receiving PPI prophylaxis and 164 subjects not receiving prophylaxis. GI bleeding occurs in 18% of subjects with prophylaxis, 23% occurs in subjects without prophylaxis. Our pooled analysis found that Prophylaxis using PPI was 0.74 times more protective in protecting against GI bleeding, but not statistically significant (OR=0.74 [95%CI: 0.43-1.29] p=0.29). In this study also found that mortality between using PPI prophylaxis and no prophylaxis were not significant (OR=0.85 [95% CI: 0.36-1.99] p=0.7).

Conclusion PPI prophylaxis in critically ill children is not significant and must be reconsidered in preventing GI bleeding and mortality. Further research is needed with larger number of samples and multiple centers to get more accurate results.

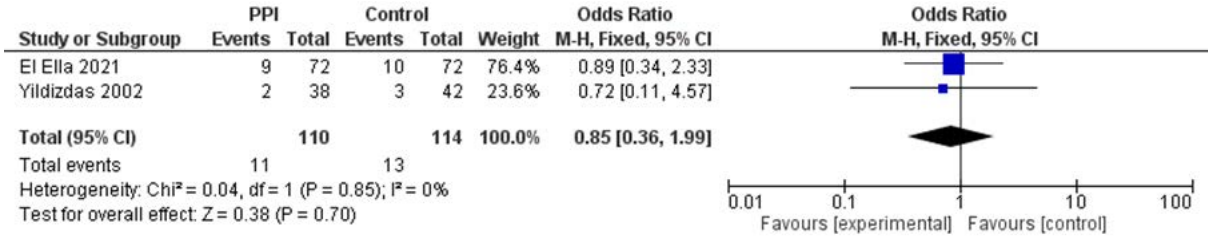
Keywords : Children, Critically Ill, Gastric Ulcer, PPI Prophylaxsis, Upper GI Bleeding

Figure 1. Forest Plot of the association between PPI prophylaxis and outcome parameters. A.) GI bleeding, B.) Mortality

A.



B.



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Association Aspartate aminotransferase-to-platelet Ratio Index with Sepsis-associated Liver Injury and Outcome Sepsis in Pediatric Patients Prof. Dr. R.D. Kandou Hospital Manado

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Background: Sepsis-associated liver injury (SALI) is a significant risk factor for multiple organ dysfunction syndrome (MODS) and mortality in pediatric sepsis. The incidence ranges from 1.3% to 46.6% with 23.81% mortality rate. Early identification of SALI remains challenging. Aspartate aminotransferase-platelet ratio index (APRI) is an affordable, simple, and non-invasive test that can be used as an early warning biomarker for SALI, surpassing Lactate Dehydrogenase and gamma-glutamyl transferase.

Method: An observational analytical study with a cohort prospective approach in all sepsis patients aged 1 month until 18 years admitted to Prof. Dr. R. D. Kandou Hospital Manado from June to September 2022. Data on patients age, gender, aspartate transaminase (AST) and alanine aminotransferase (ALT) level, outcome and length of stay were recorded.

Result: From 49 sepsis patients, dominated in male 57.1% (n=28), mean age 16 (3.5-93.5) months, APRI of those who had SALI was 1.25 higher than in the non-SALI group (p 0.001). APRI value in the deceased group was 1.53 (IQR 0.57–4.10; p = 0.001), which was substantially greater than APRI value in the living group. The study revealed a significant connection between APRI and incidence of SALI, with an OR (95% CI) of 2.32 (1.21:4.44) and p = 0.011. Analysis revealed substantial link between APRI and mortality and length of stay, with the higher the APRI value, the longer the stay in the hospital.

Conclusion: Aspartate aminotransferase-to-platelet ratio index (APRI) has substantial connection with sepsis-associated liver injury (SALI) and sepsis outcomes such as length of stay and mortality.

Keyword**:** APRI, SALI, pediatric sepsis, mortality

Gastro 39

Tuberculosis in The Intestinal in an 11-Years Old Overweight Boy with Recurrent Abdominal Pain: A Case Report

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Background: Tuberculosis in the intestinal is one of presentation of clinical manifestation found in extrapulmonary TB. Overlap of symptoms with other gastrointestinal diseases and limited accuracy of diagnostic tests demands more awareness of this disease because if left untreated, it usually led to significant morbidity leading to prolonged hospitalization and surgery. The gastrointestinal tract itself is the sixth most commonly affected extrapulmonary organ. The most commonly affected parts of the intestine are the terminal ileum and caecum. Clinical manifestations that arise can be non-specific and resemble many conditions, including malignancy. Endoscopy are now the examination of choice because they allow visualization and tissue sampling for histology and culture. The treatment approach for tuberculosis in the intestinal is the same as for pulmonary tuberculosis.

Case:A boy, aged 11-years-1-months-old, has a working diagnosis of recurrent abdominal pain. The patient has a history of recurrent abdominal pain since 1 year ago. Complaints accompanied by pain in the central area and a feeling of nausea, vomiting. The frequency of relapses is erratic within 1 week. Currently the patient has no complaints. The patient denies having a spicy food diet. Defecation and micturition within normal limits. Children Tuberculosis Scoring found in the patient is significant (6), that was consist of history of contact and Mantoux test. Patient had a frequent contact with his father, which was diagnosed with tuberculosis on treatment. The patient has overweight nutritional status. Physical examination within normal limits. Colonoscopy examination showed multiple Nodular Hyperplasia Region Ileum terminalis. EGD examination was normal.

Conclusion: Tuberculosis in the Intestinal is an extrapulmonary TB disease that can be difficult to diagnose because of the less typical clinical manifestations. Although rare, intestinal TB may be considered in patients with recurrent abdominal and gastrointestinal pain.

Keyword**:** Tuberculosis, Intestinal TB, Multiple nodular hyperplasia, recurrent abdominal pain, Pediatric TB score

Gastro 40

The Relationship between Bilirubin/Albumin Ratio and Patient Outcome in Neonates with Hyperbilirubinemia at RSUP Prof. Dr. R. D. Kandou, Manado

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Background : Jaundice has the potential for bilirubin toxicity, so monitoring should be carried out to identify hyperbilirubinemia and, in rare Cases, can progress to kern icterus. Albumin is plasma protein that plays a role in promoting the excretion of bilirubin through the liver, which if decreased, it can increased mortality in newborns with hyperbilirubinemia. The serum bilirubin/albumin (B/A) ratio can be used to determine appropriate actions in infants with hyperbilirubinemia.

Methodology : This study is a cross-sectional study involving newborns diagnosed with sepsis and respiratory distress at Prof. Dr. R. D. Kandou Manado General Hospital from February – May 2023. The data collected includes albumin levels, bilirubin levels, bilirubin/albumin ratio, and patient demographic data.

Results : From 110 patients in this study, there are 64 (58.2%) were male and 46 (41.8%) were female. The median albumin serum level was 3.30 gr/dL (range 1.23-4.57) while the median bilirubin/albumin ratio was 3.29 (range 0.31-18.86). The correlation test showed there was a significant correlation between the bilirubin/albumin ratio and serum albumin level ($r = -0.452$, $p<0.001$) and serum bilirubin level ($r = 0.851$, $p<0.001$). The bilirubin/albumin ratio was also related to length of stay ($r=0.387$, $p <0.001$) and mortality (OR 1.80, 95% CI 1.22:2.44).

Conclusion : Excessive accumulation of bilirubin can increase neonatal mortality and morbidity rates that can lead to neurological defects. Bilirubin/albumin ratio have high sensitivity to predict kern icterus in neonates. The bilirubin/albumin ratio is also associated with length of stay and mortality in neonates with sepsis and hyperbilirubinemia.

Keywords**:** Hyperbilirubinemia, Albumin, Bilirubin/Albumin Ratio

Gastro 44

Detection of Soil-Transmitted Helminths Infections by Colonoscopy in A Child with Persistent Diarrhea and Cerebral Palsy: A Case Report

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Background: Persistent diarrhea can be caused by soil-transmitted helminth infection. In some Cases, routine fecal analysis fails to identify the causative agent. A colonoscopy could be an additional diagnostic tool to investigate the etiology of persistent diarrhea. Herein, we report a Case that describes the role of colonoscopy in diagnosing the cause of persistent diarrhea in a child with cerebral palsy.

Case: A 17 years-old boy came to Mohammad Hoesin Hospital with five months of diarrhea. Signs of dehydration, vomiting, abdominal pain, fever, or bloody stool were not found. The patient had a chronic neurological disorder, cognitive disability, malnutrition, and looked pale. Daily hygiene was poor, and he lived in an unsanitary environment with limited clean water sources. Routine fecal analysis performed one month before presentation failed to detect an infective causative agent for his diarrhea. Further investigation was carried out using colonoscopy and identified rectal erosion and worms attached to the mucosal wall. Visualization during colonoscopy demonstrated multiple coiled helminthic organisms with thinner two third of their ventral end, consistent with *Trichuris trichiura*. Repeat fecal specimens found *Ascaris lumbricoides, Trichuris trichiura* and *Ancylostoma duodenale.* The patient was given three days of albendazole 400 mg and another dose on day-15. Diarrhea resolved after treatment.

Conclusion: Colonoscopy can be considered as an additional diagnostic tool in Cases of persistent diarrhea with inconclusive routine fecal analysis results. Soil-transmitted helminth infection can be directly visualized by colonoscopy.

Keywords**:** Soil-Transmitted Helminths, Persistent Diarrhea, Colonoscopy

Gastro 46

Portal Hypertension Because of Extrahepatic Portal Vein Obstruction Due to Protein S And C Deficiency: A Case Report

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Objective: Extra-Hepatic Portal Vein Obstruction (EHPVO) is the most common cause of pediatric Portal Hypertension (PH) and could cause life-threatening gastrointestinal bleeding. Data regarding the etiology of EHPVO remains limited and obscure. In some studies, 35% of Cases had coagulation disorders mainly Protein C and S deficiency. Patients with these deficiency are prone to hypercoagulability and thromboembolic events such as EHPVO. Purpose of this report is to raise awareness that protein C and S deficiency should be identified as one of the etiology of PH in children.

Case: A 3-years 6-month girl presented with recurrent hematemesis and melena. No history of umbilical catheterization, neonatal infection, abdominal surgery and cardiovascular malformation. Examinations found splenomegaly but no hepatomegaly. She had Hb of 3.1 g/dL with other normal findings (platelets, white blood cells, albumin and liver function test). Abdomen ultrasound revealed splenomegaly, with normal liver. Gastroscopy revealed grade 3-4 oesophagus and gastric varices, hypertensive gastropathy, gastric ulcer. MSCT abdomen revealed thrombus in portal and superior mesenteric vein with dilatation of mesenteric vein, gastric vein, splenic vein and oesophageal plexus, splenomegaly of 9.6 cm, no liver enlargement and cirrhotic, no hepatic vein dilatation. She had deficiency protein C and S at 36% (normal: 70-130%) and 30% (normal: 65-123%) respectively. She was given propranolol, scheduled for routine monitoring for complication, and had no recurrent bleeding.

Conclusion: In patients presenting with gastrointestinal bleeding and non-cirrhotic liver, protein C and S markers should be checked and considered as one of the etiology.

Keywords**:** Extra-Hepatic Portal Vein Obstruction, Protein C deficiency, Portal Hypertension, Protein S deficiency

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Cholestasis Caused by Primary Sclerosing Cholangitis

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Objective: Primary sclerosing cholangitis (PSC) is a rare autosomal recessive disease characterized by obliterative inflammatory fibrosis of intrahepatic and extrahepatic bile ducts that can develop to end-stage cirrhosis**.** The prevalence was about 1.5 Cases per 100,000 children. This report will describe a rare cause of pediatric cholestasis and imaging for PSC.

Case: A 2-month-old boy presented with jaundice since birth; he had dark urine, diarrhea, and acholic stools. There were no antenatal problems, no consanguinity, and no history of autoimmune disease in his family. He was breastfed and had a normal nutritional status. The physical examination showed scleral jaundice, distended abdomen, hepatomegaly, and splenomegaly (Schuffner 2). The laboratory results reveal increasing of AST 233 U/L, ALT 94 U/L, alkaline phosphatase 802 U/L, GGT 532 U/L, total bilirubin 8.1 mg/dL, direct bilirubin 5.9 mg/dL, and indirect bilirubin 2.2 mg/dL. The ultrasonography showed multiple non-uniform tubules in the periportal vein. An abdominal CT scan showed bright liver with multiple irregular hypodense tubules (beaded) and intrahepatic biliary duct dilatation, suggesting PSC. Liver biopsy was not performed due to refusal from parents. Genetic examination wasn't carried out due to financial problem. He was given ursodeoxycholic acid for one month and clinically improvement. He is still being monitored for progression.

Conclusion: PSC should be considered as a potential etiology in children with choletasis. Radiological findings have an essential role in diagnosis. Liver biopsy can show histologic findings of sclerosing cholangitis and fibrosis. Molecular genetic examination should be considered for genetic counseling.

Keywords**:** Cholestasis, Jaundice, Primary sclerosing cholangitis

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Congenital Adhesion Band Causing Biliary Obstruction: A Case Series

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Background

Obstruction or impaired secretion due to hepatocytes result the cholestasis. It is classified based on the affected sites, intrahepatic and extrahepatic.[1, 2] This Case series discusses two extrahepatic cholestasis Cases caused by bile duct obstruction.

Case 1

A 3-month-old female infant weighing 4.5 kg presented with yellowish. Complete blood examination obtained haemoglobin 9.0 g/dl, AST 165 mg/dL, ALT 100 mg/dL, gamma GT 126 U/l, total bilirubin 7.47 mg/dl, direct bilirubin 6.38 mg/dl. Contrasted head CT scan demonstrated multiple punctate calcifications in the bilateral frontotemporal lobes, microcephaly, and subdural hygroma in the bilateral frontal region. Urine CMV examination showed positive IgG. The 2-phase abdominal ultrasound examination revealed cholecystitis with impaired contractility index of 77%. She was then diagnosed with extrahepatic cholestasis due to biliary stenosis. Cholangiography and adhesiolysis was performed, and hepatic biopsy revealed steatohepatitis. Laboratory and clinical postoperative showed improvement.

Case 2

A 2 months male infant weighing, 2.3 kg presented with severe yellow skin and enlarged abdomen. He was born preterm at 31 weeks of gestation with birth weight 1,700 grams. On physical examination, we found icteric sclerae, xylophone ribs, abdominal distention and muscle wasting. Complete blood examination obtained haemoglobin 9.1 g/dl, AST 332 mg/dL, ALT 100 mg/dL, gamma GT 79 U/l, total bilirubin 11.45 mg/dl, direct bilirubin 9.55 mg/dl, and indirect bilirubin 1.9 mg/dl. A 2-phase abdominal ultrasound showed an abnormal contractility index with a contracted gallbladder suggesting cholestasis. Percutaneous transhepatic cholecysto-cholangiography (PTCC) revealed a small or minimal gallbladder pouch supporting the diagnosis of type II or III biliary atresia. Urine CMV examination revealed no IgM/IgG. He was diagnosed with extrahepatic cholestasis and we performed cholangiography and adhesiolysis laparotomy to release the congenital adhesion bands. Hepatic biopsy showed extrahepatic biliary atresia.

Conclusion

In our Cases, congenital band causes extrahepatic cholestasis. Gold standard to diagnose cholestasis extrahepatic is intraoperative cholangiography with C-arm.

Keywords**:** extrahepatic, cholestasis, biliary, obstruction

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Analysis of Knowledge and Economic Level Biliary Atresia Parent to Understand the Application of Stool Color Card

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Background: Biliary atresia is the most common cause of cholestasis in infants, which begins prolonged jaundice and cause of death due to liver disease. Early detection of biliary atresia plays an important role in the prognosis and success of treatment. The aim of the study is to analyze of knowledge and economic level understanding of biliary atresia in parents refer to application of stool color card.

Methods: A cross sectional study was conducted in July to August 2023 and selected by using consecutive sampling visited at Dr.Soetomo General Academic Hospital Surabaya. Questionnaire was designed for parents to assess the SCC's handiness of use. Statistics used were Chi-Square $p<0.05$

Results: Sixty-four questionnaires, 60(93.7%) female and 4(6.3%) male joined the study. Among 59.3% of subjects had low education and 46,8% in middle economic status. As many as 55(85.9%) of respondents were not familiar with biliary atresia and 52(81.3%) stool color card and 87% parent brought her baby with complaints of jaundice at >2months olds to primary healthcare centers. The relationship between education ($p=0.00$) and economic level ($p=0.01$) with understanding of biliary atresia and stool color card.

Conclusion: There was relationship between education and economic level with understanding of biliary atresia and stool color card.

Keywords**:** Biliary Atresia, Stool Color Card, Jaundice, Education.

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Factors Affecting Severity Of Billiary Atresia Patient On Initial Diagnosis

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Objective: Biliary atresia is a progressive obstructive cholangiopathy that present in the neonatal period, obstruction could cause severe cholestasis and further damage on the liver. We determine factor that affects the severity of patient with billiary atresia.

Methods: This cross-sectional study evaluated 109 medical records of children (0-18 years old), diagnosed with billiary atresia, and admitted at Dr Soetomo General Academic Hospital, Surabaya, from 2010 to 2020. We used age of diagnosis, duration of jaundice, birthweight, color of stool and urine and spontaneus bleeding episode as a factor that potentially affect the severity of the disease. the severity of disease then estimated with child pugh score. All the factor then analyzed by Linear regression. The level of significance was 0.05.

Result: mean age of diagnosed was 5 weeks, 52.9% were female. 46.1% develloped jaundice within 1 month of life, only 4.9% had bleeding episode, 55.9% had pale stool and 47% had darker color urine. 82.4% has normal birthweight. stattistically only age on initial diagnose has effect on the severity with p value 0.001 CI=95%

Conclusion: Age of diagnosis is a factor that can affect the severity of Billiary atresia on initial diagnosis.

Keywords**:** Billiary atresia, child pugh, severity.

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A Retrospective Review on Antibiotic Use in Acute Watery Diarrhea in Children in a Tertiary Care Hospital of Surabaya

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Background: Acute watery diarrhea mostly caused by rotavirus. Antibiotics are only indicated in diarrhea due to bacterial infection with consideration of prolonged hospital stays, and unwanted adverse effects. This study is aimed to identify the association between antibiotic usage for the treatment of acute watery diarrhea in children, and the impact this line of management has on the duration of their hospital stay.

Methodology: A retrospective review was conducted at the department of Pediatric of RSUD Dr. Soetomo Hospital in Surabaya. A total of 243 records of children who were admitted with a diagnosis of acute watery diarrhea from July 2021 – July 2023, of which 188 fulfilled the eligibility criteria. A demographic information, comorbidities, severity of dehydration, antibiotic, laboratory result and prognostic value. The statistical analysis was carried out using SPSS version 21 using multivariate analysis test.

Results: one hundred eighty eight patients presented with acute watery diarrhea, 81 patients (42,8%) did not receive antibiotics. For antibiotic administration group, 78% with indication suspicion of bacterial infection of their comorbidities and complication and others for prophylaxis therapy; 63% patients had less a week for length of stay and comorbidities mostly from hematology-oncology division. Multivariate analysis test, antibiotic has a significance correlation ($p < 0.05$) to length of hospital stay with odds ratio 0,277.

Conclusion: Antibiotic administration in this study associated with a prolonged hospital stay in children was appropriate with indication for bacterial infection from comorbidities. Large scale robust prospective studies are needed to establish this association using this observational data.

Keywords: acute watery diarrhea, antibiotic.

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Ulcerative Colitis in 2 y.o children: When colonoscopy became a game changer

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Background: The prevalence of ulcerative colitis (UC) has shown a notable upsurge among pediatric patients over the last two decades. Such delays can subsequently lead to a range of adverse consequences, impacting not only the affected individual's physical health but also their growth and developmental trajectory.

Case: The patient was a 2-year-old girl presented with a history of fresh blood in stools for the past month. Stools were mixed with blood and occurred 1-2 times a day. No vomiting, abdominal pain, or bloating during bowel movements were reported. Patient's height was below the third percentile (-3.02 SD) and weight was below the second percentile (-2.47 SD). The patient was previously diagnosed with dysentery with poor clinical condition and nutritional status. Then, the patient was treated as dysentery for 3x and given antibiotics, but the symptoms did not improve. Scintigraphy showed bleeding in the descending colon at the level of the fourth lumbar vertebra. Colonoscopy was performed and showed UC and *cryptitis.* The patient was given sulfasalazine and there was significant clinical improvement.

Conclusion: The implementation of appropriate treatment strategies can prevent the cascade of consequences that delayed diagnosis. Colonoscopy was a pivotal role and a game changer for evaluation and guide proper treatment in children with blood stool symptoms.

Keywords**:** ulcerative colitis, colonoscopy, pediatric gastrohepatology

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Profile Electrolyte Serum in Children with Dyspepsia at Prof. Dr. R. D. Kandou Hospital Manado

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Background: Dyspepsia is a complex of symptoms referable to the gastroduodenal region of the gastrointestinal tract. Approximately 80% have Functional Dyspepsia (FD). FD is one of the more common functional disorders, with a prevalence of 10–20%. Electrolyte disorders are related with vomiting which results in dehydration often found in child and are associated with morbidity. Monitoring electrolyte therapy is an important role of the pediatric assessment.

Method: The study was conducted retrospective with a descriptive method in patients with dyspepsia aged 1 to 18 years old admitted to Prof. Dr. R. D. Kandou Hospital, Manado in a period from June 2022 to June 2023 from medical record. Data on patient age, gender and electrolyte profile (sodium, potassium, chloride) when admission were recorded.

Result: From 58 dyspepsia children with electrolyte disorder showed that dominated in female 67.2% (n=39). Mean age for screened children was 8.82 ± 4.61 years. Common main diagnosis in most patients were dyspepsia in 32% (n=19). Most frequent electrolyte disorders were hyponatremia in 37.9% (n=22), hypokalemia in 32.7% (n=19), and the least was hypochloremia in 22.4% (n=13). Mean serum sodium level was 135.9 ± 6.939, serum potassium level was 4.22 ± 4.836, and serum chloride level was 100.63 ± 9.363.

Conclusion: Children with dyspepsia are more common in hospitalized with electrolyte disturbances. Therefore, clinicians should pay special attention to the fluid and electrolyte status of patients. Changes in electrolyte levels can be a good indicator of disease progression.

Keywords**:** dyspepsia, electrolyte disorder, vomiting.

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Cholelithiasis in The Neonate: Experience from National Tertiary Center

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Objective: Cholelithiasis in neonate population are very rare. Although rare, several Cases found that this condition also affecting this specific age group population. Some risk factors are associated with cholelithiasis in neonates such as parenteral nutrition, intravenous antibiotics use, and history of heart surgery. Surgery is still the mainstay treatment of this condition especially in symptomatic patient. In this Case we present the non-surgical treatment for cholelithiasis in the neonate patient.

Case: A 15 days-old girl neonates admitted to the ER with seizure, fever, and jaundice. After treatment for seizure and sepsis the cholestasis persists with laboratory examination revealed increased bilirubin and liver enzyme levels. Abdominal ultrasonography (USG) examination performed to find the pathology causing this condition. Her abdominal ultrasound then revealed multiple cholelithiasis. Patient then underwent medical treatment using ursodeoxycholic acid. One month after therapy, the abdominal magnetic resonance imaging (MRI) still showed multiple cholelithiasis, but bilirubin level already within normal limit. Five months after therapy, magnetic resonance cholangiopancreatography (MRCP) showed no sludge or other pathological intensity in the biliary tract. The ursodeoxycholid acid therapy then stopped and no other imaging performed.

Conclusion: Cholelithiasis can cause cholestasis in small children. Therefore, important to perform ultrasonography in all infant with cholestasis to specify the pathology causing this condition. We also learned that, although from literature surgical treatment for symptomatic patient were recommended, treatment with medication alone for infant with cholelithiasis showed good outcome in our Case.

Keywords: Cholelithiasis, cholestasis, neonates, ursodeoxycholic acid

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Burn Injury Grade I, Esophagitis and Acquired Pyloric Stenosis caused by Chemical Material (Sodium Hydroxide)

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Objective: Oral chemical burns occur when a chemical accidentally enters the mouth, causing burns and ulcers in the oral mucosa, esophagus, stomach, and upper digestive tract if swallowed. It is emphasizes the need for families who care and understanding the danger of accidental ingestion non-food substances. Knowledge of the appropriate response to sodium hydroxide ingestion is also important to prevent the occurrence of severe chemical burns.

Case: A, 2 year 2 months old girl, had complaint of swallowing caustic soda at 2 hours before admission. On physical examination there were swollen lips, redness and pain, no bleeding, yellowish vomiting and abdominal pain. Endoscopy procedure confirmed that patient has laserations and fibrotic cavum oris, esophagitis with fibrotic scar, laceration, micro ulcer at antrum, acquired pyloric stenosis, fibrotic and granulomatous bulb nodules. Histopatological results showed chronic duodenitis non specific with severe atrophy in duodeni bulb. Chronic gastritis in active non specific with moderate atrophy in antrum and severe atrophy in corpus. The patient was treated with fluid therapy , nasogastric tube, gastric lavage, sucralfate and consult otorhinolaryngologist. Endoscopy evaluation one month later showed improvement compared to the previous endoscopy, still scar ulcers and fibrotic at bulbs, at antrum minimally dysmorphic, acquired minimal pyloric stenosis. Prognostic for this patient was dubia ad bonam.

Conclusion
Oral chemical burns primarily occur in children because of accidental ingestion is an important part of paediatric emergency management. Follow-up treatment with endoscopy and evaluation. It is important for parents to more aware the dangers of chemical materials.

Keywords : Chemical burn, endoscopy, pyloric stenosis

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Pancreatitis and Ascites Secondary to Choledochal Cyst

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Objective: Choledochal cyst is a common congenital anomaly of the common bile duct that can cause biliary obstruction and pancreatitis. Pancreatic involvement and ascites can be risky for surgery. Diagnostic paracentesis is the first step to determine the cause of ascites. Conservative management may resolve mild Cases of pancreatitis. We present a Case of pancreatitis and ascites before choledochal cyst surgery.

Case: A 4.5-year-old girl was admitted for acute pancreatitis. Two months before admission, she had acute abdominal pain, diagnosed as biliary sludge and pancreatitis, and treated with antibiotics, which showed clinical improvement. Two weeks before admission she complained of abdominal pain and vomiting and was referred to our center. Laboratory results showed elevated serum amylase (1,171 U/L) and lipase (1,405 U/L). Magnetic resonance cholangiopancreatography (MRCP) revealed choledochal duct dilation suggestive of a cyst, cholecystitis, intraluminal sludge, multiple choledocholithiasis, and ascites. She underwent paracentesis which showed high SAAG (1.2), amylase (6,823 U/L), and protein (3.2 g/dL), and negative culture. Intraperitoneal pigtail catheter placement was performed and 4.6 L of ascitic fluid was drained in 10 days. Antibiotics and antifungal therapy were given. The ascites and pancreatitis improved and she was discharged on day 38. She had choledochal cyst surgery 2 weeks after discharge and recovered well.

Conclusion: Choledochal cyst is associated with pancreatitis and ascites. MRCP can evaluate bile duct pathologies. Abdominal paracentesis is the fastest and most cost-effective way to diagnose the cause of ascites. Intraabdominal pigtail catheter placement is a safe and effective way to manage ascites.

Keywords: Ascites, choledochal cyst, pancreatitis, choledochal cyst surgery

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The Effect of Probiotics on Fecal Calprotectin Levels and Duration of Acute Diarrhea in Children

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Background : Probiotics reduce frequency and duration of diarrhea by increasing immune response, production of antimicrobial substances, and decreasing inflammatory process. Fecal calprotectin is a marker of inflammatory disease. This study aims to determine the effect of probiotics on fecal calprotectin levels and duration of acute diarrhea in children.

Methodology : Experimental research was conducted at public health centers and hospitals in Padang. The study was started from January to June 2023. Data were collected from 30 samples in the control group who received WHO standard therapy and the intervention group who received standard WHO therapy with probiotics.This study observed the duration of acute diarrhea and levels of fecal calprotectin.

Results : The duration of acute diarrhea in the intervention group was shorter than the control group, 16.5 hours (±5.12), and the difference was significantly (p-value = 0.023). There was a significant difference in fecal calprotectin levels before and after the administration of probiotics in the intervention group (p-value = 0.038).

Conclusion : Administering probiotics can shorten the mean duration of acute diarrhea and decrease the mean level of fecal calprotectin significantly. Administering probiotics can be suggested as an adjuvant theraphy in the management of acute diarrhea in children.

Keywords: acute diarrhea, probiotics, fecal calprotectin

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Dadiah Supplementation During Pregnancy and Its Impact on Intestinal Microbiota and Levels of sIgA in Breast Milk and Infant Fecal

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Objective: Dadiah, a fermented buffalo milk from Minangkabau culture, has shown positive effects on the gut health of both mothers and children. This study examined the effects of dadiah supplementation on pregnant mothers, focusing on the proportion of gut microbiota and the levels of secretory immunoglobulin A (sIgA) in breast milk and infant fecal samples.

Methodology: In a randomized controlled trial (NCT05140928), 31 healthy mother-infant pairs participated. Pregnant women aged 20-35 were randomly assigned to either the dadiah or control group. The dadiah group consumed 100g/day of dadiah pudding, while the control group received dadiah-free pudding. Both groups followed their assigned intervention six days a week, from 10-20 weeks of gestation until delivery. Breast milk and infant fecal samples were collected during the first week after birth and in the third month. QPCR analysis was performed to determine the relative proportion of *Bifidobacterium* and *Enterobacteria*, and ELISA was used to measure sIgA levels.

Results: Over the three-month period, the dadiah group showed a higher trend in *Bifidobacteria* proportion in breast milk, and a decreasing trend in *Enterobacteria* proportion both in breast milk and infant fecal samples. Additionally, the dadiah group demonstrated higher levels of sIgA in breast milk throughout the first three months and in fecal samples during the first week.

Conclusion: The results indicate that giving dadiah to pregnant women could influence the composition of gut microbiota and boost sIgA production.

Keywords**:** dadiah, gut microbiota, probiotics, secretory IgA.

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Erosive Gastritis in Children Due to Accu Zuur Fluid Intoxication

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Introduction

Erosive gastritis is a gastric erosion caused by imbalance of cytoprotective and cytotoxic factors on the gastric mucous[1]. The diagnosis is made after an endoscopic procedure[2]. Accu Zuur is a wet battery which a colorless and odorless aqueous solution of sulfuric acid, therefore this liquid will be very likely drunk by children[4]. Curative and supportive treatment is given completed by close monitoring, elimination of causes and drugs[3]

Case Report

A 4 years old child admitted to hospital due to drink a clear and odorless liquid packed in a bottle with a red cap resembling mineral water with the words ACCU Zuur liquid 6 hours before admission to the hospital. The patient complained of vomiting with blood. The patient also complained of sore throat. On the vital signs are in normal limits. His physical examination an epigastric tenderness. In laboratory results leukocytes increase and segmental. The patient had esophagogastroduodenoscopy procedure and the results showed erosions on the corpus and antrum of the gastric as also the lower third of esophagus. The patient diagnosed with erosive gastritis and Gastro Esophageal Reflux Disease. So based on the overall findings of the examination results, the patient was admitted to the pediatric intensive care unit, installed a nasogastric tube and treated with antibiotics, mucoprotectors, and PPI.

Conclusions

Erosive gastritis is an organic disorder of gastric lining. The diagnosis made after esophagogastroduodenoscopy examination to confirm the pathological finding. Pharmacological therapy including Proton Pump Inhibitor and mucoprotector also elimination of causes could improve children's condition.

Keywords **:** Erosive gastritis, Accu water, esophagogastroduodenoscopy

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AST To Platelet Ratio Index (APRI) and Child-Pugh Classification in Infantile Cholestasis at Ulin General Hospital Banjarmasin

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Background: Infantile cholestasis, which 30-40% caused by biliary atresia, is a serious hepatobiliary disorder and requires timely assessment, diagnosis, and intervention to prevent progressive liver damage. Liver biopsy is the gold standard procedure for diagnosis and assessing the damage severity, however it is not always available. Several indices systems are available to predict the severity and prognosis of patient with liver damage. The Objective is to determine whether the APRI can predict severity as indicated in Child-Pugh classification and to find the correlation between them.

Methodology: This is a retrospective study. Data were collected from medical records from January 2021-December 2022 at Ulin General Hospital for infantile cholestasis with jaundice, laboratory bilirubin direct > 1 mg/dL, increased AST and ALT, and at 2 phase hepatobiliary ultrasound suspected biliary atresia.

Result: There were 32 patients with infantile cholestasis with mean age was 5.81±4.49 months. Ratio male to female was 1:1.46. APRI score showed ≥ 1.5 in 2 patients (6.2%) and ≥ 2 in 17 patients (53.2%). Patients with Child-Pugh B were consisting of 19 patients followed by Child-Pugh C were 12 patients. The Child-Pugh Classification and APRI showed a positive correlation with Spearman's correlation coefficient : 0.482, p=0.005

Conclusion: The proportion of patients with APRI > 1.5 is increasing along with the degree of severity according to the Child-Pugh classification. This indicates that the rise in APRI may predict the advance of liver damage.

Keywords: APRI, Child-Pugh, Infantile Cholestasis, Jaundice, liver damage

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Megacystis Microcolon Intestinal Hypoperistalsis Syndrome: A Case Report of Rare Disease

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Background: Megacystis-microcolon-intestinal hypoperistalsis syndrome (MMIHS) is a rare and fatal congenital disease. Currently, no specific treatment is available. We present a Case of male newborn with MMIHS that was earlier diagnosed as Hirschsprung's disease.

Case report: A 6-hour-old term, male newborn presented with a suspicion of mega-vesica and Hirschsprung disease from the prenatal ultrasound. Bilious gastric residuals and abdominal distention developed at 12 hours old. No stool within 48 hours of age. Physical examination revealed abdominal distention, no palpable mass. Abdominal x-ray showed gastric distention, no bowel gas in the middle-distal colon to rectum; abdominal ultrasound showed left kidney pelviectasis and bowel distention of distal obstruction; and colon-in-loop showed microcolon, suspected Hirschsprung's disease. The baby was kept on nil per oral, adequate total parenteral nutrition (TPN), and antibiotics. Temporary ileostomy and full-thickness biopsy were performed. The biopsy result was Hirschsprung's disease. Enteral feeding was introduced but not tolerated. Later, the baby had decreased urine output and urologic ultrasound showed urine retention with bilateral hydronephrosis and hydroureter. The MMIHS was suspected. Intermittent and continuous feeding and prokinetic drugs had been given, but intolerance feeding still persist. After a month, the baby began to deteriorate, fell into septic shock to multiorgan failure, and died at 43 days old.

Conclusion: The MMIHS diagnosis is based on clinical features prenatal and postnatal. Adequate TPN must be maintained. Surgical intervention and prokinetic drugs were unsuccessful. The outcome remains poor that sepsis, multiorgan failure, and complication of prolonged TPN being the common cause of death.

Keywords: Hirschsprung's disease, Megacystis Microcolon Intestinal Hypoperistalsis Syndrome, MMIHS, newborn

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Constipation in A 10-Year-Old Girl with Spina Bifida Occulta (SBO) and Xeroderma Pigmentosum (XP): A Case Report

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Objective: SBO is a spinal anomaly in which the posterior arches of the lumbosacral spine fail to fuse. Children with SBO showed abnormal nerve conduction until loss of innervation to pelvic floor muscles and the hindgut in constipation. XP is a rare genetic disease with an autosomal recessive pattern. In previous studies, it was reported that several patients with XP experienced symptoms of chronic constipation. This condition may increase the severity of constipation.

Case: A 10-year-old girl came to ER with no defecation since 7 days before admission, accompanied by abdominal enlargement since 3 days before admission. History of several hard passes stool since 3 years old. She was diagnosed with XP since 3 years old. The girl had macula hyper and hypopigmentation with xerosis on the face, neck, hand, and feet, a dysmorphic face, pale conjunctiva, injection conjunctiva, and dry eye. There was a distended abdomen and palpable mass at the iliac region, with blunt edges and uneven surfaces, approximately 3-4 cm. Radiology examination showed retention of fecal material on colon descending and sigmoid. Abdominal USG showed mild hydronephrosis bilateral. Abdominal CT scan with contrast showed spina bifida and suspect polyposis rectum and narrowing of the sigmoid lumen with obstructive ileus.

Conclusion: This Case illustrates a combination of SBO coinciding with XP in a patient that can potentially complicate the management of constipation.

Keywords: Functional Constipation, Spina Bifida occulta, Xeroderma Pigmentosum, Polyposis

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Quality of Life of Parents and Patients with Biliary Atresia

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Objective: Children with chronic disease such as biliary atresia may face many problems affecting their quality of life (QoL). Chronic disease in children has impacts on family members and leads to family health impairment. The aim of this study is to evaluate the QoL of the parents and patients with biliary atresia.

Methods: Parents and patients with biliary atresia were included in this Case control study. We used Pediatric Quality of Life (PedsQL) to evaluate the QoL of patients with biliary atresia. Questionnaire used to evaluate parents' quality of life was World Health Organization Quality of Life (WHOQoL). We compared the QoL of biliary atresia patient to healthy children. Multivariate linear regression was used for associated factors.

Result: This Case-control study evaluated 38 medical records of children (0-24 months) with biliary atresia at Dr Soetomo General Academic Hospital Surabaya, conducted from June to July 2023. Data obtained showed the prevalence of male and female gender has the same number (50%). Age <6 months, mothers with high school education, family income >3 million Rupiah, normal nutritional status were more prevalent in patients with biliary atresia. Based on the WHOQoL questionnaire, environment was the only domain that had major effect on the parents' QoL (P= 0.005). However, the five domains of PedsQL do not exhibit a significant association with the patients' QoL.

Conclusion: According to the findings of the WHOQoL questionnaire, it is evident that the environment had a significant impact on the QoL of the patient's parents (P= 0.005).

Keywords**:** Biliary Atresia, PedsQL, WHOQOL, Parents' quality of life, Child quality of life

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Laboratory Characteristics As Predictors of Critical Illness in Cholestatic Patients in the Children's Ward at RSU Dr. Saiful Anwar Malang

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Background: Cholestasis remains to be a major problem in children. The incidence of cholestasis at Saiful Anwar Hospital averages 30 Cases per year. For some Cases, cholestasis can leads to critical illness. There is a need of simple and aplicative method on clinical practice. The Objective of this review to predict critical illness in cholestatic patients based on laboratory examination.

Methodology: The study was conducted on 50 patients with cholestasis who were treated at RSU Saiful Anwar Malang, for the period January 2022 - June 2023. Data analysis was carried out using descriptive tests and logistic regression tests.

Result: Subjects consisted of 23 male and 27 female, 18 intrahepatic cholestasis and 32 extrahepatic cholestasis. The results showed that the average laboratory character of intensive cholestasis albumin patients was 2.64 g/dL, platelets 118 103/**µL**, hemoglobin 6.63g/dL, AST 457.44 U/L, leukocytes 20.56 103/**µL**, ALT 284.5 U/L, CRP 3.15 mg/dL, direct bilirubin 10.08 mg/dL. In the predictor analysis results, the laboratory values for albumin, platelets, hemoglobin, AST, leukocytes, ALT, CRP, direct bilirubin give a simultaneous effect of 80% on critical cholestatic patients, the rest is influenced by other factors. In extrahepatal and intrahepatal patients there was no significant difference in laboratory results.

Conclusion: The laboratory character of the research results is the average of laboratory results that require intensive treatment. Examination of laboratory results can provide a simultaneous effect on critically ill cholestatic patients. The effect of laboratory results as a predictor of cholestatic patients is 80%, the rest is influenced by other factors.

Keywords: Cholestasis, Laboratories, Predictors

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The Accuracy of Non-Invasive Diagnostic Test for Hirschsprung's Disease

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Background: Hirschsprung's disease (HD) diagnosis relies upon the histopathological examination of rectal biopsy, which is an invasive examination. Colon in loop (CIL) is one of screening examinations for HD. This study determined the sensitivity and specificity of CIL as a non-invasive diagnostic tool in detecting HD.

Methodology: A retrospective study was conducted in HD pediatric patients treated in Dr. Moewardi Hospital between March 31st, 2022 and June 31th, 2023. The data obtained from clinical constipation and CIL examination were compared with the anatomic pathology examinations after rectal biopsy or transanal endorectal pull-through (TEPT) surgery. Then we assessed the sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV).

Results: This study enrolled 105 children undergoing CIL. Eighty four subjects (94.05%) were confirmed HD based on post operative biopsy findings. The accuracy of colon in loop analysis obtained 94.05% sensitivity, 75 % specificity, 96.34% PPV, and 16.67% NPV.

Conclusion: Colon in loop can be used as one of initial examination for patient with clinical manifestations of HD as a non- invasive modality for alternative screening tool. It has high sensitivity and moderate specificity as well as PPV. It is more affordable and less complications than rectal biopsy is.

Keywords**:** Hirschsprung's disease, megacolon congenital, colon in loop, children, biopsy rectum

Gastro-2- 01

Profile of Deceased Patients with Intrahepatic and Extrahepatic Cholestasis at Dr. M. Djamil Hospital, Padang

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Background: Cholestasis is an obstruction of bile flow, causes by accumulation of bile in liver and bloodstream. The underlying causes of cholestasis in children and neonates are different from adults, mostly related to genetic factor. There are two types of cholestasis: intrahepatic cholestasis and extrahepatic cholestasis. The mortality rate due to cholestasis depending on the underlying cause. Mortality of cholestasis genetic related highest in the first year of life.

Methodology: A retrospective descriptive study, was obtained from medical records patients with cholestasis in children at RSUP Dr. M. Djamil Padang in 2018 to 2022. The sampling technique used in this study was total sampling.

Results: The results of this study showed that 82 patients were diagnosed with cholestasis. The most age group with cholestasis was < 1 years old (77%) and children ≥ 1 years (23%). Subjects of this study consisted of 58% female and 43% male. The result showed that seven subjects (8.5%) with cholestasis died during 2018 to 2022, mostly age and gender in this study were <1 year (86%), and female (71%).

Conclusion: Child mortality with intrahepatic and extrahepatic cholestasis more often found in patients aged <1 year and female gender.

Keywords: cholestasis, extrahepatal, intrahepatal, mortality rate

Gastro-2- 05

Factors Associated with Gastroesophageal Reflux Disease in Children at Puskesmas Andalas Padang

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Background: Gastroesophageal Reflux Disease (GERD) is a condition in which stomach contents reflux into the esophagus or oropharynx and cause symptoms and/or complications, most episodes of gastroesophageal reflux is due to temporary relaxation of the lower esophageal sphincter triggered by postprandial gastric distension. Various risk factors are thought to play a role in GERD such as premature infancy, family history of GERD, history of formula consumption, and obesity**.**

Methodology: This retrospective descriptive study was performed in January - July 2023 on 45 childrens in Andalas Padang Health Center. Data were collected by interviewing parents of childrens which suspected of GERD by using the IDAI GERD and GERD-Q questionnaire.

Results: Forty-five subjects (mean age 9 years, 16 (35%) male, 29 (64%), were included in this study. The *chi- square* test results showed that low gestational age, preterm birth, and malnutrition was significant associated with GERD ($p < 0.05$). Subjects with low body weight showed a six times bigger potential risk of GERD ($p = 0.037$). Multivariate logistic regression analysis showed that gestational age (OR 1,859), birth weight (OR 3,564), nutritional status (OR 2,700), and formula milk history (OR 1,586) did not have a significant association with the incidence of GERD in children (p value > 0.05).

Conclusion: The higher risk factors for GERD in children are gestational age, low birth weight, and malnutrition.

Keywords: child, formula milk, GERD, gestational age, infant.

Gastro-2- 06

Comprehensive Treatment of Massive Gastrointestinal Bleeding due to Multiple Gastric Hemangiomas in Kassabach–Merit Syndrome Patient

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Objective: Kassabach-Merrit syndrome is a rare condition characterized by the presence of vascular tumor often hemangioma, thrombocytopenia and consumptive coagulopathy. Multiple gastric hemangiomas could be presented with gastrointestinal bleeding.

Case: A 4-year old girl presented to the emergency department with recurrent episode of melena for 3 weeks in hypovolemic shock condition, pallor and epigastric tenderness. Hemoglobin level 7.2 g/dL, thrombocytopenia 112.000/mm3 and prolonged coagulation factor. She had subcutaneous hemangioma on the right lower limb. Magnetic resonance imaging (MRI) revealed heterogenous enhancing soft tissue mass on intramuscular, cutan and subcutan of right femur. Esophagogastroduodenoscopy revealed multiple vascular lesion in gastric corpus and fundus. The abdominal MRI showed a well-defined vascular lesion involving the gastric fundus and platelet aggregation were consistent with platelet trapping within the vascular lesion. Patient received platelet transfusions to maintain platelet counts above 50,000/mm^3. Systemic corticosteroids were initiated to reduce the size of the hemangioma and inhibit platelet trapping. Vincristine and bleomisin were given. The patient had embolization of hemangiomas on the right femur from the radiologic intervention. Over the course of several weeks, the platelet counts improved and the bleeding episodes resolved. Follow-up imaging studies showed a reduction in the size of the multiple gastric hemangiomas. The patient was discharged with close outpatient clinic for monitoring and management.

Conclusion: A Case of massive gastrointestinal bleeding caused by multiple gastric hemangiomas in pediatric patient with Kassabach-Merrit syndrome and the risk of life-threatening bleeding had been reported. Multidisciplinary approach was adopted for the management of the patient.

Keyword**:** Gastric hemangioma, gastrointestinal bleeding, Kassabach-Merrit

Gastro-2- 07

Association Stress Levels Students SMAN 10 Padang with Incidence of Recurrent Abdominal Pain

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Background : Recurrent abdominal pain is a common presenting complaint in school-aged paediatric patients. Often, the cause is not discovered and is misdiagnosed as a functional complaint. Severe abdominal pain in children is one of the leading causes of school absence, decreased learning concentration, and inability to participate in sports and other extracurricular activities.

Methodology : A cross-sectional study was conducted on 100 SMAN 10 Padang students between June and July 2023. Data were obtained from students who had previously signed an informed consent filling out a questionnaire in accordance with the Rome IV Criteria.

Results : In this study, 100 students from SMAN 10 Padang were enrolled, with 40 of them having recurrent abdominal pain based on the Rome IV Criteria. The *chi-square* test results revealed a significant relationship in this study between exposure to stressful life events at school and parental education level and the incidence of recurrent abdominal pain ($p<0,01$). The results of the logistic regression analysis revealed that being exposed to stressful life events at school was a risk factor for the occurrence of recurrent abdominal pain (OR >1,0).

Conclusion : Parenteral education level and exposure to stressful life events from school are significantly correlated. School-related stressors were a risk factor for the occurrence of recurrent abdominal pain.

Keywords: recurrent abdominal pain, risk factor, stressful life events

Gastro 02

Prevalence of Nausea in Children from Acute Malaria on Ardipura District, Jayapura City, Papua Province in July 2021 - December 2021

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Introduction
Malaria is an acute febrile disease caused by the Plasmodium parasite, with fever, headache, chills, sweating, myalgia and gastrointestinal as common symptoms. One of the gastrointestinal symptoms such as nausea can reduce fluid and nutritional intake, even cause persistent vomiting and lead to dehydration, anorexia and electrolyte imbalance.

Background
The Southeast Asia region has 9 malaria endemic countries, one of which is Indonesia, and in 2021 Papua dominated with 94,610 total Cases in Indonesia.[5]
Nausea is one of the most complained upper gastrointestinal symptoms in malaria. This phenomenon has been discussed and several experiments were made to prove the pathophysiology of nausea, which may include delayed gastric emptying time, changes in the gastric mucosa, and increased gastrointestinal permeability.

Methods
Medical records were collected from child patients who came to the Primary Health Facility in the Ardipura area with positive malaria results with the Drike Drupple (DDR) test. Data entered into Statistical Package for the Social Sciences (SPSS) to calculate the number based on age, sex, type of malaria and incidence of nausea in these patients.

Results
From July to December, total Cases are 295 consist of 132 under 5 years old patient with 161 boy patient dominated (n% = 54,57%, IC95% = 54,4% - 54,8%) 148 patient experiencing nausea (n% = 50,16%, IC95% = 50%-50,4%) and the rest are not presenting a nausea (n% = 49,83%, IC95% = 49,6%-50%). From 98 Cases of nauseous children, 45 were diagnosed with Malaria Tropicana, 42 with Malaria Tertiana, 9 with Mixed malaria and 2 with Malaria Malariae.

Conclusions
The prevalence of nausea in all samples was 148 Cases out of 295. Nausea is most often found in malaria tertiana, 134 Cases. The children over 5 years old age group had the highest incidence of nausea, and male patient experienced more nausea. Any malaria patient with nausea should be alerted because symptoms can worsen.

Keywords
Upper Gastrointestinal Symptoms, Malaria, Nausea, Papua

Gastro 03

Profile of Liver Function in Children with Tuberculosis who Receive Antituberculosis Drug Therapy at Dr. M. Djamil Hospital, Padang

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Background
Treatment of childhood tuberculosis requires combination therapy of antituberculosis drugs consisting of Rifampicin, Isoniazid, Pyrazinamide, and Ethambutol. These drugs can cause side effects such as icterus, nausea, vomit and abdominal discomfort (Drug Induced Liver Injury).

Objective
This study aims to determine the profile of liver function in children with tuberculosis who receive antituberculosis drug therapy.

Methods
This research was a cross-sectional descriptive study. Data were taken using the total sampling method from the medical records of pediatric TB patients who received antituberculosis drug therapy at Dr. M. Djamil Padang in 2020-2023

Results
Thirty six subjects were involved in this study, which consisted of 42% aged ≤ 5 years, 30% aged 5-10 years, and 28% aged > 10 years. Six (17%) subjects were malnourished. Elevated of alanine aminotransferase (ALT) and aspartate aminotransferase (AST) were found in 31 (86%) subjects. Twenty two (61%) subjects had an increase <2.5 times, 4 (11%) subjects had an increase 2.5-5 times, 2 (6%) subjects had an increase 5-10 times, and 3 (8%) subjects had an increase >10 times. Twenty three (64%) subjects had an increased ALT and AST in the intensive phase and 8 (22%) subjects in the maintanance phase.

Conclusion
Children with tuberculosis who received antituberculosis drug therapy had an increased ALT and AST, especially during the intensive phase.

Keywords: Drug Induced Liver Injury, Antituberculosis drugs, Tuberculosis in children

Gastro 08

Percutaneous Endoscopic Gastrostomy (PEG) as a Treatment for Feeding Problem in Children with Gastroesophageal Reflux Disease (GERD) and Neurological Impairment

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Objective: Children with neurological impairment have increased risk of GERD. Risk of aspiration pneumonia or food refusal can cause large obstacle to appropriate nutritional support. PEG is an interventional procedure for feeding patients with an impaired swallowing ability. This Case report aims to demonstrate that a child with GERD and neurological impairment could get benefit by PEG insertion in reducing the symptoms as well as optimizing nutritional rehabilitation of the child.

Case illustration: A 1-year-old boy was admitted to the emergency of RSCM with vomiting and mild-moderate dehydration. Since two months prior to admission, the patient often experienced repeated vomiting and choking. The patient had a history of gastroesophageal reflux disease, congenital cytomegalovirus infection, epilepsy, and global developmental delay. He was treated for gastroesophageal reflux disease with omeprazole and had been using feeding tube to receive enteral nutrition, but the symptoms did not improve. Endoscopic examination revealed grade B erosive esophagitis, erosive gastritis, gastropathy, duodenitis, and laryngopharyngeal reflux. PEG insertion was decided as the treatment for the feeding problem. The main indications were dysphagia with a risk of silent aspiration as well as failure to thrive. After three months of PEG insertion with adjustment of feeding schedules every 4 hours, there was an improvement in nutritional status with an adequate weight gain and intake tolerance.

Conclusion: PEG is well-tolerated and effective method of tube feeding with relatively low complication rates, should be increasingly considered for patients with gastroesophageal reflux disease with neurological impairments which require long-term enteral nutrition.

Keywords**:** children, dysphagia, percutaneous endoscopic gastrostomy

Gastro 11

Correlation of APRI with METAVIR Index in Infantile Cholestasis

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Background
Neonatal cholestasis affects 1 in 2,500 term infants, with biliary atresia being the most common and severe cause, which can damage the liver if not recognized and treated properly. Histopathological examination of liver biopsy remains the gold standard for diagnosis, with METAVIR index to determine the degree of liver damage. APRI (aspartate aminotransferase-to-platelet ratio index) is a simple, non-invasive method that can be used to predict liver fibrosis in chronic liver disease. In this study we compare these 2 indices in infants with cholestasis.

Methodology
Infants with cholestasis that underwent liver biopsy and assessed by METAVIR index from 2005-2023 in Dr.Soetomo hospital were included retrospectively. APRI at the time of liver biopsy was calculated. Statistical analysis with Pearson correlation was performed, and ROC curve was used to assess the diagnostic performance of APRI for significant liver fibrosis (≥F2) and cirrhosis (≥F4).

Results
Twenty-seven patients were included, 12(44%) females, with mean age 4.7±3.9 months. METAVIR F4 was seen in 8(30%), F3 in 3(11%), F2 in 5(19%), F1 in 9(33%), and F0 in 2(7%). Pearson correlation r for APRI and METAVIR was 0.48($p<0.05$). Mean APRI for F2-F4 (significant fibrosis) was 3.55±3.52, and for F0-F1 (no/mild fibrosis) was 1.93±0.95. Mean APRI for F4 (cirrhosis) was 5.33±4.27, and for F0-F3 (non-cirrhosis) was 1.86±0.95. From ROC, area under the curve for significant fibrosis and cirrhosis was 0.631 and 0.822 respectively.

Conclusion
APRI is positively correlated with METAVIR index and can be used to predict significant liver fibrosis and cirrhosis in infants with cholestasis.

Keywords**:** APRI, cirrhosis, fibrosis, infantile cholestasis, METAVIR index

Gastro 18

The Effect of Bovine Colostrum on Duration of Acute Diarrhea with Mild Moderate Dehydration and Secretory Immunoglobulin A Levels in Children

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Background : Bovine colostrum contains significant amount of secretory immunoglobulin A (sIgA) which can inhibit the adhesion of pathogens to the mucous membranes and inhibit colonization. This study aims to determine the effect of bovine colostrum on duration of acute diarrhea with mild to moderate dehydration and levels of sIgA in children.

Methodology : Experimental research was conducted at public health centers and hospitals in Padang. The study was started from February 2022 to November 2022. Data were collected from 30 samples in the control group who received WHO standard therapy and the intervention group who received standard WHO therapy with bovine colostrum. This study observed the duration of acute diarrhea and levels of sIgA.

Results : The duration of acute diarrhea in the intervention group was shorter than the control group, 11.93 hours (±5.04), and the difference was significantly (p-value = 0.021). There was a significant difference in sIgA levels before and after the administration of bovine colostrum in the intervention group (p-value = 0.003).

Conclusion : Administering bovine's colostrum can shorten the mean duration of acute diarrhea and increase the mean level of sIgA significantly. It can be suggested as an adjuvant theraphy in the management of acute diarrhea in children.

Keywords: diarrhea, dehydration, colostrum, sIgA levels

Gastro 21

Antibiotics Pattern of Cholangitis After Kasai Hepatoportoenterostomy in Jakarta, Indonesia

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Background: Biliary atresia (BA) patients undergoing Kasai portoenterostomy (KPE) have a risk of developing postoperative cholangitis. This study aims to determine the clinical profile of postoperative cholangitis and its antibiotics (AB) pattern as a guide for empiric therapy in Indonesia.

Methodology: We retrospectively seek medical record data at a liver transplant center in Jakarta, Indonesia, from November 2021 – July 2023. We included BA patients who underwent KPE and divided them into cholangitis and non-cholangitis. Our center defined cholangitis as clinical symptoms (fever, increased jaundice, stool color change) supported by increased liver function tests (LFTs) from baseline. We obtained clinical data, LFTs preoperatively and three months post-operatively, and blood culture results during episodes of cholangitis treatment. We used the Mann-Whitney U test to compare LFTs within both groups.

Results: We observed 32 BA patients who underwent KPE, 23 (72%) of whom had postoperative cholangitis with 64 episodes. Cholangitis was not associated with LFTs three months post-operatively. Blood cultures were positive in 41% of Cases. Gastrointestinal tract flora predominates the etiology of cholangitis (65%), with the most being *Klebsiella pneumoniae* (23%) and *Escherichia coli* (19%). The first-line AB with the highest sensitivity percentage was chloramphenicol (68%); the second-line AB were piperacillin-tazobactam (62%), amikacin (62%), and amoxicillin-clavulanic acid (57%); and the third-line AB were vancomycin (100%), linezolid (100%), teicoplanin (100%), and tigecycline (83%).

Conclusion: For postoperative cholangitis, the best choice of AB is chloramphenicol, piperacillin-tazobactam, amikacin, or amoxicillin-clavulanic acid. In non-response to treatment, we suggest escalating to vancomycin, linezolid, teicoplanin, or tigecycline.

Keywords: Cholangitis, Biliary Atresia, Kasai procedure, Antibiotic, Blood culture

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Platelet Count and Spleen Length for Prediction of Rebleeding Episodes in Pediatric Non Cirrhotic Portal Hypertension

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Objective: Portal hypertension (PH) is increased intravascular pressure of the portal vein. Oesophageal varices (OV) are the most common complication of PH. In Cases of cirrhosis, several non-invasive parameters have been proposed to predict severity. However, in non-cirrhotic Cases it is still very minimally discussed. This study aims to look at non-invasive parameters to predict the occurrence of rebleeding episodes in pediatric non cirrhotic portal hypertension.

Methods: From January 2017 to July 2023, a cross-sectional study was conducted in Soetomo General Hospital. Totally 28 children diagnosed with OV, were enrolled for the evaluation. The Statistical Package for the Social Sciences (SPSS) version 27 was used to analyze the data.

Results: The mean age of enrolled participants was 7.9 ± 5.06 years. From totally 28 samples, 19 (68%) were male and the rest 9 (32%) were female. We analyzed platelet count, spleen length, platelet count/spleen length ratio. Spleen length is the only parameter which was independently associated with the recurrency of re-bleed episodes ($P<0.05$). In a cost-benefit analysis, occurrence of rebleeding episodes of OV according to the "spleen length ratio strategy" was more cost effective and can be applicable for general pediatrician in rural-urban areas.

Conclusion: From this study we can conclude that spleen length is the only parameter which is independently associated with the recurrency of OV rebleeding. This issue will be very challenging to resolve, perhaps with future studies that have a larger sample size.

Keywords**:** Platelet count, spleen length, oesophageal varices

Gastro 20

Conjugated Bilirubin, Gamma Glutamyl Transferase, and Precutaneous Transhepatic Cholecysto-Cholangiography: An Alternative Examination for Biliary Atresia

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Background/objective:

Conjugated bilirubin (CB) and gamma glutamyl transferase (GGT) levels are non-invasive tests to detect abnormalities in the biliary system. Another modality is percutaneous transhepatic cholecysto-cholangiography (PTCC). Early detection of biliary atresia (BA) is important for optimal treatment. This study analysed the relationship of elevated CB and GGT levels with PTCC findings in biliary atresia Cases.

Methodology:

A retrospective study was conducted on children under 1 year old who underwent PTCC at Dr. Moewardi Hospital. The data were retrieved from medical records between August 2021 and July 2023. Bivariate analysis used chi square test with p value < 0.05 was considered significant. The cut off points of CB and GGT level were obtained from ROC Curve.

Results:

Thirty six subjects met the research criteria, of these 23 (63.8%) subjects had biliary atresia proven on PTCC findings. Bivariate analysis obtained that CB ($p = 0.000$; OR 15.37 ; CI 95%) and GGT ($p = 0.044$; OR 5.70; CI 95%) levels had significant relationship with biliary atresia based on PTCC findings. The cut off points of CB level > 6.66 mg/dl and GGT level > 165 u/l indicated high possibility of biliary atresia.

Conclusion:

Conjugated bilirubin and GGT levels relate significantly with PTCC findings. Therefore CB level > 6.66 mg/dl and GGT level > 165 u/l can be used for early detection of biliary atresia in peripheral health facilities.

Key Words: Conjugated bilirubin, GGT, Biliary atresia

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The Association of Risk Factors with The Incidence of Acute Diarrhea And Persistent Diarrhea in Children

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Background: Acute, as well as persistent diarrhea is a common health problem in developing countries and it has a high mortality rate. Risk factors affecting both conditions can be very diverse. Acute diarrhea is triggered by food and beverage contamination, poor hygiene, and exposure to pathogens through contact with infected people while persistent diarrhea is commonly caused by poorly resolved infections, malnutrition and underlying health conditions. Understanding these factors helps in developing effective prevention and strategies to reduce the incidence of diarrhea in children. This study investigated the risk factors of acute diarrhea and persistent diarrhea in pediatric patients.

Methodology: A cross-sectional study using the data from the medical records of pediatric inpatients of Dr. Moewardi Hospital, Surakarta between 2021 and 2022. The obtained data, age, sex, nutritional status, and hemoglobin level were analysed with chi-square test.

Results: Sixty children were hospitalized with diarrhea, comprising 20 subjects with persistent diarrhea and 40 subjects with acute diarrhea. The subjects were dominated by male (65%), age less than <1 year (55%), poor nutritional status (48.3%), and anemia (56.7%). Chi-square test obtained that sex had significant association with diarrhea (p = 0.022, OR 3.67, 95%CI 1.18-11.41), while age (p = 0.271, OR 0.54, 95%CI 0.18-1.63), nutritional status (p = 0.85, OR 0.85, 95%CI 0.31-2.65), and anemia (p = 0.713, 95%CI 0.27-2.42) did not associate with diarrhea.

Conclusion:
In this study, diarrhea is not associated with age, nutritional status, and anemia. Nevertheless sex is a risk factor of both acute and persistent diarrhea.

Keywords : acute diarrhea, children, persistent diarrhea, risk factors

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The Association of Nutritional Status with *Helicobacter pylori* Infection in Children

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Background/objective: *Helicobacter pylori* infection has been suggested to affect on nutritional status. Nevertheless, the relationship between *H. pylori* infection and nutritional status remains complex and not fully understood. Therefore, we investigated the association between nutritional status and *Helicobacter pylori* infection in children.

Methodology: A cross-sectional study was conducted in children undergoing endoscopy in Dr. Moewardi hospital, Surakarta from January 2022 to June 2023. The subjects were allocated into two groups, 5 years old and below and over 5 years old. Anthropometric status, including weight, height, and body mass index (BMI) were plotted into the WHO and CDC 2000 growth charts to assess nutritional status. Nutritional status was classified into two groups, malnourished-undernourished and wellnourished-overweight-obese. *Helicobacter pylori* infection status was determined through gastric mucosal biopsy. Fisher's exact test was applied to analyze the association between nutritional status and *Helicobacter pylori* infection. The significance level was set at $p<0.05$.

Results: Fifty-four children were included in the study, and most of them are female (55.6%). Abdominal pain (90.7%) was the most common reason for endoscopy. Sixteen children (29.6%) were malnourished-undernourished and 38 children (70.3%) were wellnourished-overweight-obese. *Helicobacter pylori* infection was observed in 2 children (20%) aged 5 years old and below and 12 children (27%) aged over 5 years old. Fisher's exact test obtained no significant association between nutritional status and *Helicobacter pylori* infection in both children aged 5 years old and below ($p=0.444$) and children aged over 5 years old ($p=1.000$).

Conclusion: Nutritional status does not associate with *Helicobacter pylori* infection.

Keyword**:** children, *Helicobacter pylori,* nutritional status

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Mortality Rate of Children with Biliary Atresia in Moewardi General Hospital Surakarta, Kasai Procedure vs Non-Kasai Procedure

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Background: Biliary atresia is a progressive disease of hepatobiliary system which may lead to death. Kasai procedure is considered to reduce the mortality rate. This study compared the mortality rates of children with biliary atresia undergoing Kasai and non-Kasai procedures.

Methodology: A retrospective study was conducted using medical records of pediatric patients with biliary atresia teated in Dr. Moewardi General Hospital from 2021 to 2023. The odd ratio of the mortality rate of the non-Kasai procedure vs Kasai procedure was calculated using the chi-square test, and $p<0.05$ was considered statistically significnt.

Results: Of the 38 children with biliary atresia, 23 of them are males. A total of 17 subjects underwent Kasai procedure. The mortality rate of children with biliary atresia reduced insignificantly with Kasai procedure (OR 0.562; 95% CI 0.153-2.067, p 0.360). The mortality rate was insignificantly higher in children undergoing Kasai procedure at the age of >3 months old (OR 2.667 95% CI 0.737-9.649, p 0.086) than that of < 3 months old children.

Conclusion: Kasai procedure and age of subjects do not significantly improve the mortality rate of children with biliary atresia.

Keywords: Biliary atresia, Kasai procedure, non-Kasai procedure, Mortality rate

Gastro 27

Unveiling The Enigmatic Association Between Neonatal Sepsis, Low Birth Weight, Asphyxia, and The Incidence of Neonatal Jaundice in Tertiary Hospital

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Background: Neonatal Jaundice is one of the most common health problems worldwide. The prevalence of jaundice varies in different countries. Many risk factors could cause neonatal jaundice, such as, sepsis, low birth weight (LBW), and asphyxia. The study aimed to identify the relationship between neonatal sepsis, low birth weight, asphyxia, and the incidence of neonatal jaundice.

Methodology: This study was observational analytic with a cross sectional design. Data were collected from medical record of neonates who admitted to neonatal intensive care unit of Drs H Amri Tambunan General Hospital between January and December 2022, according to predetermined inclusion criteria. Bivariate analysis was carried out by using chi-square test with a p value of <0.05 was considered as significant result.

Result: About 76 neonates were examined. There were 42 (55.3%) neonates with jaundice and 34 (44.7%) without jaundice, 61 (80.3%) neonates with sepsis, 38 (50.0%) neonates were born with LBW, and 59 (77.6%) of neonates had asphyxia. There were significant relationships between LBW (p-value<0.05), sepsis (p-value<0.05) with neonatal jaundice. Furthermore, there was no significant correlation between asphyxia with jaundice (p-value 0.112).

Conclusion: There was significant relationship between sepsis and low birth weight with the incidence of neonatal jaundice. Early detection of sepsis in neonates is recommended as an alternative to prevent neonatal jaundice.

Keywords: Neonatal Jaundice, Sepsis, LBW

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Alagille Syndrome in A Six Month Old Girl

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Background: Alagille syndrome is a multisystemic with an autosomal dominant genetic etiology, characterized by variable expressiveness involving the intrahepatic bile ducts, kidneys, skeletal tissue, and nervous system. The incidence of clinical apparent Alagille syndrome is approximately 1 in 70.000 live births. Alagille syndrome is a rare condition and diagnosis in children made based on clinical manifestation and confirmed by genetic testing. The aim of this Case report to describe clinical characteristic of Alagille syndrome.

Case: A 6 month old girl was admitted with chief complaint increasing jaundice. She had history jaundice and hypocholic feces when she was 2-months-old. Physical examination showed jaundice, syndromic face (a broad forehead, prominent ears, depressed nasal bridge with a bulbous tip nose, a triangular face with a pointed chin, a deep set palpebral fissure with hypertelorism), and hepatomegaly. Laboratory result revealed mild microcytic hypochromic anemia, increased direct bilirubin 18 fold upper limit, and increased GGT 47 fold upper limit. Thoracolumbar x-ray showed “butterfly appearance” and cholangiography showed multiple liver cyst. We diagnosed the patient with suspected Alagille syndrome. We planned this patient to be referred to another hospital to get a liver transplantation, but the patient died after 25 days of hospitalization.

Conclusion: Alagille syndrome has been rarely reported in the Indonesian literature. Our Case is second Case in our hospital and notable because she had cholestasis, facial characteristic, and “butterfly appearance” from thoracolumbar x-ray.

Keywords: Alagille syndrome, cholestasis, children

Gastro 07

Diagnostic Approach and Management of Pancreatic Kaposiform Hemangoendothelioma

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Background: Kaposiform hemangioendothelioma (KHE) is a rare vascular tumor that can occur in infancy or early childhood. Clinical manifestations that arise depend on the location of KHE. Pancreatic KHE is a very rare type of KHE. Since 1973, only 9 Case reports of children with pancreatic KHE have been published. The most serious complication of this tumor is the Kasabach-Merritt phenomenon, a life threatening coagulopathic process with clinical manifestations of thrombocytopenia, consumption of fibrinogen, and other coagulation factors.

Case: A 8 month-old girl came to emergency unit of Dr. Cipto Mangunkusumo Hospital with gastrointestinal bleeding, depigmented feces, cholestasis history, and growth failure. On physical examination, we found icteric sclera, hepatosplenomegaly, growth failure, and developmental delay. Laboratory examination showed bicytopenia, elevation of transaminases levels, and cholestasis. The working diagnosis of this patient were extrahepatic cholestasis and hepatosplenomegaly because of biliary atresia, choledocal cyst, or malignancy. We evaluate abdominal ultrasonography, magnetic resonance cholangiopancreatography, and perform biopsy. We diagnosed her as pancreatic kaposiform hemangioendothelioma following results from the pancreas biopsy and recurrent bicytopenia (the Kasabach-Merritt phenomenon). The patient received conservative management and supportive therapy.

Conclusion: Pancreatic kaposiform hemangioendothelioma may manifest as obstructive jaundice, hepatomegaly, palpable abdominal mass, duodenal obstruction, and intestinal bleeding. Although childhood pancreatic hemangioendothelioma is extremely rare, early recognition is important in order to prevent delays in diagnosis and treatment.

Keywords: cholestasis, Kasabach-Merritt phenomenon, pancreatic kaposiform hemangioendothelioma

Gastro 10

Foreign Bodies Ingestion in Children: The experience of one-center referral hospital in Jakarta, Indonesia

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Foreign body ingestion is a common problem in children and can cause serious complications. This is also a challenging clinical scenario for the pediatric gastroenterologist. This study aims to identify the distribution of urgency levels, types and locations of foreign objects, and the actions taken.

Method. A retrospective descriptive study was conducted on a population of children with problems swallowing foreign bodies who came to the Dr. Cipto Mangunkusumo General Hospital Emergency Room and Outpatient Clinic from January 2020 to July 2023. Data were analyzed using descriptive statistics.

Results. There were 46 patients who experienced episode of swallowing foreign bodies. Females (52.2%) were more frequent compared to that of male patients, and the mean age was 8.2 years of age. As many as 67.4% of Cases occurred over the age of 5 years and the level of urgency of endoscopy was as much as 32.6% of Cases. In most of the Cases, the foreign bodies already reached the small intestine (37%), followed by stomach (28.3%); and showed no clinical symptoms (60.9%). The most common type of foreign bodies were needles (37%) and coins (22%). Treatment includes spontaneous discharge (30%), endoscopy (35%), surgery (7%), and others (28%). Most Cases of ingested foreign bodies were successfully removed (70%) and without complications (93.5%).

Conclusions. Ingestion of foreign bodies is common in children over 5 years. Needles are the most common foreign bodies found and the small intestine is the most common site.
Keywords: Foreign bodies; Children; Endoscopy

Gastro 25

A Case Report: A Rare Hepatocellular Carcinoma as Complication in Alagille Syndrome

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Objective: Hepatocellular Carcinoma (HCC) is a rare long-term Alagille Syndrome (ALGS) complication. The prevalence of HCC is limited, especially in children. ALGS can be complicated by abdominal masses, commonly hepatoblastoma. Only some Cases were found as HCC due to difficulty differentiating them pathologically. In most Cases, the patient was diagnosed with a severe condition when liver transplantation or chemotherapy is impossible to apply. Early detection of HCC will determine its morbidity and mortality rate.

Case: A 4-month-old girl was referred to RSCM due to suspected biliary atresia. The 2-phase ultrasonography result showed obstruction in the biliary system. She planned to do a biopsy and genetic testing, but due to Covid-19, patients did not come to RSCM. The patient came to RSCM 2 years later with an abdominal mass, persistent jaundice, and severe malnutrition. She had a liver biopsy showing HCC and Steiner 3-4. Based on this condition, liver transplantation and chemotherapy become harmful. The pediatrician and family decided to do a palliative treatment. The patient passed away at five years old.

Conclusion:
Hepatocellular Carcinoma is a rare complication of Alagille Syndrome in children. Five years survival rate in HCC with liver transplantation is about 70%. Chemotherapy can be an alternative if liver transplantation is impossible to be done. Nevertheless, the prognosis is defined by the severity and clinical condition of the patient. So, early detection and comprehensive management are crucial.

Keywords**:** Hepatocellular Carcinoma, Alagille Syndrome, Immunohistochemistry

Gastro 01

Association between Faecal pH with Nutritional Status in Children under Five Years Old in Lambung Bukit District, Padang City

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Background: Optimum growth of gut microbiota contribute to form acidic stool. Elevated faecal pH are a sign of gut microbiota imbalance. Stunted growth was found to be significantly associated with elevated faecal pH. Faecal pH may have become a potential biomarker of gut microbiota state and a potential indirect predictor of childhood stunting. Lambung Bukit District has higher stunting prevalence 24,2% on children under five years among other district in Padang City.

Objective: To evaluate faecal pH associated with nutritional status in children under five years old in Lambung Bukit Distrct, Padang City.

Methods: This is an *cross sectional* study with laboratory data of faecal pH in children under five years old in Lambung Bukit District, Padang City. Faecal was collected from 30 child randomly, the sample we use 1-2 gram and measured by pH meter.

Results: Thirty subjects were enrolled in this study. The result shows from all subjects, the mean age was 3,25. Most of subject was boy 18 subject (60%), with 24 subject (80%) were well-nourished, 4 subject (13,3%) under-nourished, and 2 subject (6,7%) were malnourished. There is 12 (40%) subject with stunting. There was no difference between children with stunting and normal child faecal pH (*p value* 0,765). The cut off value of faecal pH for stunting subjects was ≥ 5,785 with sensitivity 50% and specificity 44,4%.

Conclusion: There is no relationship between faecal pH with nutritional status in children under five years old in Lambung Bukit District, Padang City.

Keywords: faecal pH, children, malnutrition, *stunting*

Gastro 06

Primary Intestinal Lymphangiectasia in A 26 - Month - Old Girl: Case Report

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Background: Primary Intestinal Lymphangiectasia (PIL) is a rare disease characterised by an abnormal intestinal lymphatic system, resulting in plasma, protein, and lymphocyte loss in the gastrointestinal tract. It is typically diagnosed in patients younger than 3 years old. Diagnosis is often delayed due to features similar to those of other causes of recurrent diarrhoea.

Case: A 26-month-old girl presented with recurrent diarrhoea, and occasionally mucous and greasy stools. Recurrent episodes of diarrhoea have been associated with poor weight gain since 4 months of age and abdominal distension. Peripheral edoema in the lower limbs and face at the age of 9 months. Physical examination revealed abdominal distension. Her body weight was 6 kg (WAZ < -3 SD), length was 76 cm (WAZ < -3 SD). The laboratory revealed hypoalbuminemia (2.53 gm/ dL), hypoglobulinemia (2.4 gm/dL), lymphopenia (13%). Ultrasonography of the abdomen showed ascites. Esophagogastroduodenoscopy revealed punctate white lesions in the duodenal mucosa, and biopsy of the duodenum showed dilated lymphatic channel with no evidence of inflammation. The patient was treated with octreotide, low-fat diet with medium chain fatty acids, and supplementation of fat-soluble vitamins. She responded to the treatment and improved symptomatically.

Conclusion: It is necessary to take a detailed patient history and physical examination, especially in patients with diarrhoea associated with fat malabsorption, oedema, and weight loss to rule out secondary causes of lymphangiectasia. Endoscopic examination and histopathology are important in confirming diagnosis. Lifelong diet therapy with high protein and medium-chain tryglicerides is the main therapy to maintain good growth and development.

Keywords: primary intestinal lymphangiectasia, recurrent diarrhea, hypoalbuminemia, oedema, fat malabsorbtion

Gastro 09

Delivery by Cesarean Section and Gastrointestinal Disorders in The Offspring: A Systematic Review and Meta-analysis

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Background: The global rate of cesarean section (CS) has risen in recent decades, as the medical rationale for the procedure has become less stringent, and a new study predicts that almost one-third of all infants would be delivered through CS by 2030. CS has been linked to an elevated risk of immune modulation in the offspring. Several immune disorders have grown in incidence with the rise in CS rates. Interestingly, it is well known that the gastrointestinal tract contains many immune cells, thus whether a CS would increase the prevalence of gastrointestinal problems is still being determined owing to a lack of study and controversy from numerous studies. Our meta-analysis was aimed to discuss this matter.

Methods: A systematic literature search was conducted using PubMed, ScienceDirect, and Google Scholar up until July 2023. The primary outcomes of this study consisted of functional gastrointestinal disorders (FGID), gastroenteritis, inflammatory bowel disease (IBD), and celiac disease (CD).

Results: Fourteen prospective and retrospective cohort studies were included in this study. Compared to vaginal delivery, CS had a substantially higher risk of gastroenteritis (aOR=1.19 (95%CI:1.14–1.24);P=0.040;I^2=0.0%), IBD (aOR=1.10 (95%CI:1.05–1.15);P<0.001;I^2=3.7%), and CD (aOR=1.13 (95%CI:1.02–1.25);P=0.023;I^2=46.5%) in the offspring. Moreover, CS did not have an elevated risk for FGID (aOR=1.04 (95%CI:0.95-1.15;P=0.103;I^2=42.3%).

Conclusion: CS denotes an increased likelihood of acquiring a variety of gastrointestinal diseases. The gut dysbiosis caused by CS may be correlated to the aforementioned disease; hence, acknowledging the fundamental mechanisms underpinning these entities may provide unique insight into their genesis and facilitate prevention.

Keywords: cesarean section, gastrointestinal disorders, vaginal delivery

Gastro 12

Identification of Risk Factors Affecting the Outcome in Children with Severe Dehydration Acute Diarrhea

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Background. Diarrhea is a major health problem in the child population worldwide. It is known that diarrheal child deaths mainly occur in conditions of severe dehydration. There are several conditions or risk factors that can exacerbate diarrhea with severe dehydration that can cause death.

Objective. To identify and determine the magnitude of the influence of risk factors that affect the outcome of acute diarrhea with severe dehydration in children.

Method. This research is quantitative research using retrospective cohort method. The population in this study were in pediatric patients aged 1 month to 5 years with severe acute diarrhea with a total of 109 samples.

Result. Based on the results of statistical tests using the multivariate test with logistic regression showed that there were only 4 risk factors that affected the outcome of children with acute severe dehydration, namely the patient's age, history of drinking ORS, fecal leukocytes and sodium levels. Age 1 month-2 years, history of not drinking ORS, presence of fecal leukocytes and hypo/hypersodium sodium levels will increase the outcome of death in children with acute diarrhea with severe dehydration.

Conclusion. Children with acute diarrhea with severe dehydration and these risk factors need special attention by carrying out early management to reduce mortality.

Keywords: Risk Factors, Acute Diarrhea, Severe Dehydration

Gastro 15

Pediatric Fulminant Hepatic Failure with Undetermined Cause in Remote Area

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Objective: Pediatric fulminant hepatic failure is a rare condition with high mortality and various etiology. Clinical manifestation may develop abruptly with or without previous history of liver disease. Thorough evaluation is essential in establishing the diagnosis and etiology to provide appropriate treatment; However, not always feasible in remote areas.

Case: A previously well 12-year-old boy presented with general weakness 1 hour prior. Patient also complained about having fever, nausea, abdominal pain, and jaundice 5 days prior. Previous history of jaundice or liver disease were denied. The patient had a habit of consuming energy drinks every day for 4 years. On physical examination, jaundice, fever, tachypnea, tachycardia, hepatomegaly, epigastric tenderness, and pitting oedema on both legs were evident. Laboratory examinations indicated liver injury. Abdomen ultrasound examination showed acute acalculous cholecystitis. Hence, hepatitis A was initially suspected**.** Despite being given supportive and symptomatic treatment, there was no sign of improvement and the patient deteriorated abruptly. Thus, fulminant hepatic failure was a differential diagnosis that came up. The diagnosis was made clinically, since the PT-INR test was not available in our facility. Patient passed away on the second day.

Conclusion: Pediatric fulminant hepatic failure is a complex, life-threatening disease that has a non-specific clinical presentation and often leads to a rapid deterioration. The diagnosis is made using biochemical tests that describe an acute liver injury with a moderate or severe coagulopathy with or without encephalopathy and no evidence of chronic liver disease.

Keywords: Pediatric Fulminant Hepatic Failure, Energy Drink, Remote Area

Gastro 17

Relationship Between Risk Factors and Caretakers Knowledge and Attitude-Behavior Towards Children Diarrhea Incidence in Kijang, Bintan, Riau Island: a Cross-sectional Study

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Background: In the past year, there has been increasing incidence of diarrhea in Kijang, Bintan Island. The lack of knowledge in both caregivers and healthcare workers has been one of the causes of inappropriate management of diarrhea in children. The purpose of this study was to identify the relationship between risk factors and the knowledge and attitude-behavior of caregivers on the incidence of diarrhea in children in the Kijang Kota sub-district.

Methods: This cross-sectional study was done in Kijang from June-July 2023. Data was collected using a validated 26-question questionnaire regarding caretakers' demographic characteristics, knowledge, and attitude- behavior towards diarrhea. Adequacy is defined when >50% of questions is answered correctly. Analysis was conducted using Chi-square and logistic regression. The results were displayed in the form of odds ratio (OR) in which $p<0.05$ is considered significant.

Results: Data of 63 caregivers was obtained; 36 (57,1%) were aged 25-35 years old, 21 (33,3%) did not graduate high school, and 15 (23,8%) children reported diarrhea more than three times annually. Caregivers who have graduated high school showed significantly higher knowledge (OR 5,63; 95%CI 1,8-17,6). Increasing age was associated with favorable attitude and behavior towards diarrhea (OR 20,00; 95%CI 2,8-144,3). Adequate knowledge regarding diarrhea correlates well with proper attitude and behavior regarding management of diarrhea (OR 10,82; 95%CI 2,9-39,8). Children of caregivers with adequate knowledge are less likely to have diarrhea (OR 6,68; 95%CI 1,8-24,6).

Conclusion: Adequate knowledge is well-correlated with favorable attitude and behavior towards diarrhea management with lower incidence of diarrhea in children.

Keywords: Caretakers' knowledge, attitude, behavior, Children diarrhea

Table 1. Risk factors related to caregiver knowledge and attitude-behavior towards diarrhea in children in Kijang, Bintan, Riau Island, Indonesia.

Risk Factor	Knowledge				Attitude-Behavior			
	Insufficient	Adequate	OR (95% CI)	*p*	Insufficient	Adequate	OR (95% CI)	*p*
Sex								
Male	6	5	1		7	4	1	
Female	19	33	2,08 (0,6-7,7)	0,320	11	41	6,52 (1,6-26,4)	0,009*
Caregiver age (year)								
<25	8	5	1		10	3	1	
25–35	10	26	4,2 (1,1–15,8)	0,036*	6	30	16,67 (3,5–79,3)	<0,001*
>35	7	7	1,6 (0,3-7,4)	0,548	2	12	20,00 (2,8–144,3)	0,003*
Number of family								
<5	4	9	1		1	12	1	
≥ 5	21	29	0,61 (0,2-2,3)	0,538	17	33	0,16 (0,2–1,3)	0,087
Marriage status								
Married	23	33	1		16	40	1	
Divorced / widow	2	5	1,74 (0,3-9,8)	0,693	2	5	1,00 (0,2-5,7)	1,000
Education								
Unfinished high school	14	7	1		12	9	1	
Finished high school	11	31	5,63 (1,8-17,6)	0,003*	6	36	8,00 (2,3-27,1)	0,001*
Health information source								
Public health center/hospital	14	21	1,67 (0,3-9,8)	0,572	10	25	1,87 (0,3-9,9)	0,460
School	1	2	1,25 (0,1-22,9)	0,880	0	3	-	
Mass media (radio, TV)	8	10	2,00 (0,3-13,2)	0,471	5	13	1,95 (0,3-12,0)	0,472
Friends	2	5	1		3	4	1	
Knowledge								
Insufficient	-	-	-	-	14	11	1	
Adequate	-	-	-	-	4	34	10,82 (2,9-39,8)	<0,001*

Table 2. Relationship between knowledge and attitude-behavior towards the incidence of childhood diarrhea in Kijang, Bintan, Riau Island, Indonesia.

Variable	Diarrhea incidence			
	≥3x/year	<3x/year	OR (95% CI)	*p*
Knowledge				
Insufficient	11	14	1	
Adequate	4	34	6,68 (1,8-24,6)	0,005*
Attitude-Behavior				
Insufficient	7	11	1	
Adequate	8	37	2,94 (0,9-9,9)	0,104

COL 05

The Incidence of Depression after the Covid- 19 pandemic in Pediatric Resident Medical Faculty Universitas Lambung Mangkurat

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Background: COVID-19 pandemic has the potential to significantly affect the mental health of healthcare workers (HCWs), who stand in the frontline of this crisis. After the pandemic is over, residents who still work in the hospital are expected to have better mental health.
Objective: To determine the incidence on depression in pediatric residents after Covid-19 pandemic

Methods: This cross-sectional study was carried out in June 2023, we involved all residents, with a total number of 39 residents of pediatrics at the Faculty of Medicine Universitas Lambung Mangkurat, with a survey method using the Beck Depression Inventory-II (BDI II) questionnaire. We compare it with the BDI -II survey of pediatric residents in 2021 when the Pandemic is in progress

Results: All residents are involved in this research 38 (100%). Most of them normal, 10 resident (26.3 %) suffer from mild until moderate depression. When viewed from all Cases of depression and grouped according to the level of the period, the largest percentage is in the senior period, 33.3% senior resident were depression but this was not statistically significant *(p=0.54)*. When we compared to the pandemic period in 2021 the incidence of depression was 37.5%, there was a decrease in the percentage of depressed residents but this was not statistically significant (p= 0.35)

Conclusion: Incidence depression among pediatric resident in Medical Faculty Universitas Lambung Mangkurat after Covid-19 pandemic was 26.3%, there has been a decrease in incidence when compared to during the pandemic period

Keywords: after Covid-19 pandemic, BDI-II, depression, resident

COL 06

The effectiveness of digital transformation As a media for assessment and evaluation of learning in pediatric resident

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Background: Student assessment methods must be Objective, transparent, and easy to analyze. The weakness of the manual system are takes time to process cumulative scores, the cost of duplicating assessment forms, difficulties in collecting assessment form especially during the Covid-19 pandemic. Therefore Department of Pediatrics has started digital transformation since 2021, but currently its effectiveness has not been evaluated. The purpose of this study was to examine the effectiveness of using the google form as a media for assessment and evaluating learning in pediatric resident.

The study design was descriptive analysis. The study subjects were pediatric resident programs at Universitas Brawijaya Malang by total sampling of the class 2016 to 2023. The questionnaire consisted of 8 items that directly answered by the subjects via Google form.

The results was obtained from 77 (71,9 %) of subjects. The study revealed the google form application was effective as a media for assessment and evaluation of learning in pediatric residency program. Assessment using digital/google form applications is more effective than conventional assessment using paper (64.9%), better value transparency (94.8%), consistency of examiners to assess previous papers (84.4%), adds to the objectivity of the assessment (90.9%), knowing the contents of the rubric assessment (68.8%), helping examiners make an Objective assessment (98.7%), rubrics make it easier for resident to carry out scientific activities (98.7%), and they know the score directly (66.2%). Assessment using the google form application is more effective in terms of cost and effort also efficient in time.

Conclusion: Digital transformation using the google form application is effective as a media for assessment and evaluation of learning in pediatric resident.

Keyword: digital, google form, pediatric resident, assessment

COL 07

Eight Semesters vs. Seven Semesters: Are the Quality of Graduates Still be Guaranteed? A Mixed Method Study

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Background: There is a change of National Standard Book for Paediatrician Education, from 8-semester to 7-semester. Pediatric Division of Medical Faculty UNS has started seven-semester program since three years ago. This study compared the process and outcomes of the 8-semester with 7-semester curriculum.

Methodology: A mixed method study was conducted using deep interview with supervisors and focus group discussion (FGD) with residents. We quantitatively compared the score of modul and non-modul residents who had passed the intermediate stage in an 8-semester and 7-semester curriculum.

Results: Residents in 8-semester curriculum had more experience, more comprehensive, and more competence achievements, while residents in 7-semesters curriculum had less exposure to Cases, dense scientific assignments, less comprehensive, and less competence achievements. Supervisors thought that the competence of 8 and 7-semester curriculum residents were similar. In the 7-semester curriculum, the core competencies are longer so that exposure to Cases is more various, while non-core competencies are shorter hence the Case variations are less to achieve. Quantitatively, the score of the 8-semester vs. 7-semester curriculum module was 81.9 ± 1.6 vs 83.0 ± 1.8 (p=0.0001), while the score of the non-module was 83.4 ± 1.6 vs 83.0 ± 1.8 (p=0.53).

Conclusion: Based on resident perspective, 8-semester curriculum is more suitable than 7-semesters. According to the Supervisor's perception, the 7-semester curriculum for core competence is better than that of the 8-semester curriculum. The module score is significantly higher in 7-semester curriculum than 8-semester curriculum.

Keywords: Curriculum, Mixed Method, FGD, Deep Interview

COL-2-05

The Short Form-36 Differences Score As Quality-Of-Life Description of Junior and Senior Levels Pediatric Resident at The Faculty of Medicine Universitas Padjadjaran

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Background : Quality of life is a subjective assessment related to one's perspective on an individual's life satisfaction in physical, psychological, social, activity, material, and need areas. The 36-Item Short Form Health Survey (SF-36) is a questionnaire to measure health-related quality of life in general, which it comprises of 8 domains that generally consisting of 2 components, namely physical quality of life, which includes physical functioning, physical limitations, bodily pain, and general health. And, emotional quality of life, which includes vitality, social functioning, emotional limitations, and mental health. The SF-36 questionnaire has a score range from 0-100, with 100 being the best score.

Methodology : This was a cross-sectional study involving 79 pediatric residents at Faculty of Medicine Universitas Padjadjaran as study subjects, consisting of 23 (29%) men and 56 (71%) women who had studied 1–11 semesters. All residents were asked to answer the SF-36 questionnaire, which consists of 36 short questions covering 8 various aspects, namely physical limitations, emotional limitations, social functioning, physical functioning, emotional mental health, bodily pain, vitality, and general health aspects. Filling out the questionnaire was carried out in the period 1st July–31st July 2023 at Dr. Hasan Sadikin General Hospital Bandung.

Results : Pediatric residents at Faculty of Medicine Universitas Padjadjaran had a mean age of 31.43 ± 2.78 years; were grouped into 2 groups, namely 41 (51,9%) juniors and 38 (48,1%) seniors. All quality of life domain scores tended to be higher in the senior group, except for the vitality domain. Junior *vs* senior domain score for physical functioning domain were (95.24±5.91 *vs* 96.71±7.56), physical limitations were (69.31±27.09 *vs* 73.02±29.28), bodily pain were (75.00±20.90 *vs* 82.61±17.46), general health were (60.73 ±20.75 *vs* 66.15±22.08), vitality were (59.75±17.42 *vs* 58.15±19.81), emotional limitations were (79.67±27.77 *vs* 79.82±25.16), and mental health were (62.63±18.03 *vs* 63.15 ±17.22). Social functioning appeared to be significantly higher in the senior group (67.68±20.72, *vs* 76.97±18.04, P 0.037).

Conclusion : The social function of senior group pediatric residents was better than junior groups.

Keyword: Pediatric residents, Quality of life, Short Form-36 (SF-36)

COL 04

Exploring The Power Relationships and Characteristics of Director in Pediatric Training Program: An Autoethnography Approach

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Background/objective: Program directors are recognized as strong and independent leaders in the medical trainee environment. The ecology of a program director's leadership in a pediatric training program in Indonesia has not been explored. The aim of this work was to understand the power relationships and characteristics of the director of a pediatric training program in the context of the situation in Indonesia.

Methodology: This was a qualitative study with an autoethnographic approach. In this study, I explore the ecology of a program director's leadership in a pediatric training program, features from my reflective experiences during the pandemic era that are compiled in a book. I wrote it as an autoethnography to present the power relationships and characteristics of the pediatric training director.

Result: I examine the power base relationships described as 'referent', 'expert', 'informative', 'legitimate", 'reward', and 'coercive'. Informative and legitimate were the the power base relationships I found most in my reflective book. These narratives of director characteristics are explored through roles such as 'authenticity', 'adaptability', 'accessibility', 'authority', 'accountability' and 'autonomy'. Accountability and accessibility were the most commonly found characteristics.

Conclusion: Thereupon, leadership skills are required for a program director to face challenges in pediatric training program education, by understanding the characteristics (accountability and accessibility) and power relationships (informative and legitimate).

Keywords: characteristics, power relationships, ecology, program director, pediatric

COL-2-01

Impact of Curriculum Modification on Duration of Thesis Proposal Completion

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Background : Curriculum plays important role in guiding any kind of education. One of pediatric residency programme's outcome is to graduate on the target time, which is influenced by thesis completion. Thesis is preceded by thesis proposal presentation, therefore we performed a modification in curriculum by adding one month for proposal thesis preparation in the junior residential phase. The Objective of the study is to evaluate the difference of duration to finish thesis proposal among resident who underwent previous curriculum compared with modified curriculum.

Methodology : We performed a retrospective, Case-control study to compare mean duration of thesis proposal completion among residents who underwent the modified curriculum compared with previous curriculum. Inclusion criteria were residents who completed their thesis proposal. Case defined as residents who underwent one month for thesis proposal preparation and control defined as residents who did not get one month proposal preoaration. Sample size was calculated based on total sampling, analysis with mean difference statistic with $p < 0.05$.

Results : There were 35 residents as Cases and 41 residents as control included to the study. There were no difference in university origin, marital status, division's research field, and grade point average between both groups. Mean duration to finish thesis proposal was significantly shorter in Case group {8.14 (4.71) months vs. 13.88 (1.6) months, with mean difference 5.74 months, 95% CI 4.17-.30, $p<0.001$)}

Conclusion : Duration of thesis proposal completion was shorter in residents who underwent modified curriculum compared with previous curriculum

Keywords: Graduates, study duration, pediatric specialty, curriculum

COL 08

Successful Rate of Exclusive Breastfeeding in Infants of Mothers Participating in Medical Residency Training Programs

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Background: Infants of mothers participating in the medical residency training program have a relatively high risk of failing to breastfeed exclusively, thus requiriyng additional formula milk. The failure of exclusive breastfeeding is due to reduced breast milk production, the unavailability of breast milk pumping facilities, and workload.

Methods: We conducted a cross-sectional study involving 67 infants of mothers in medical residency training programs across seven centers in Java and Sumatra. An online questionnaire was distributed via WhatsApp© to obtain information about type of nutrition given to infant of mothers participacting in medical residency training programs.

Results: 37 subjects were given breastfed, while 30 subjects were already given formula milk, with 15/30 (50%) formula milk given at 0 months, and the most reason is less product of breastmilk. 31/67 mothers (46%) reported no facility to breastmilk pump or refrigerator to store the breastmilk in their institution.

Conclusion: infant of mothers participating in medical residency training programs have high chance of beeing given formula milk due to less production of breastmilk

Keywords: Exclusive Breastfeeding, Infant, Medical Residency.

MISCL 05

Neonatal Multisystem Inflammatory Syndrome (MIS-N) Associated with COVID-19, Is It a Rare Case or the Unforgotten Diagnosis?

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Background: SARS CoV-2 infection can manifest as the COVID-19 sequelae after 2-4 weeks of acute infection that known as multisystem inflammatory syndrome in children (MIS-C) and neonates (MIS-N). It is challenging to diagnose MIS-N because of the similarity symptoms and the variation of the onset of clinical manifestation.

Cases: There are two Cases of MISN: (1) premature neonate (26-weeks) with respiratory distress, thrombocytopenia, high D-dimer, direct hyperbilirubinemia, increase of transaminase, and reactivity of IgM and IgG anti SARS-CoV-2 without any prove of other infection, which occurs at the 7 weeks of life; (2) and late preterm (36-weeks) with watery diarrhea and vomiting) that occurs at the 2 weeks of life, hypovolemic shock, negative for PCR CMV test and gastrointestinal panel. These two Cases were having increase of CRP and procalcitonin. The first patient was diagnosed with MIS-N because of the high COVID-19 Cases and the patient's mother was having COVID-19 before the delivery. Then, for the second patient, MIS-N was still considered even the COVID-19 pandemic was released and there are no prove of COVID-19 symptoms or positive test from the parents. The consideration of MIS-N was based on the negative of other infection test, the effect of pandemic release (there is no mandatory COVID-19 test even the population had the COVID-19 symptoms) and the extention of COVID-19 vaccination (it blunts the symptoms of COVID-19).

Conclusion: The diagnosis of MIS-N should not be forgotten even the history of symptoms and positive test of COVID-19 in the parents were unknown or denied.

Keywords: Coronavirus disease 2019, MIS-C, MIS-N, Neonates, SARS-CoV-2

MISCL 22

Rituximab as A Rescue Therapy for Steroid Resistant Nephrotic Syndrome and Chronic Kidney Disease Grade 3

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Objective : Steroid resistant nephrotic syndrome (SRNS) is an absence of remission despite a four-week treatment of daily prednisone at 2 mg/kg/day. SRNS is a serious problem due to its high risk progressivity in becoming an end stage kidney disease. It needs non steroid immunosuppressant drugs that may cause some side effects. Rituximab (RTX) is a monoclonal antibody that works against the CD20 antigen by causing depletion of B cells, which has been reported to induce remission of proteinuria in patients with SRNS. RTX can be considered as a rescue therapy in patients receiving multiple immunosuppressant therapy with minimal side effects.

Case : A 10 year-old girl was diagnosed with nephrotic syndrome (NS), steroid unresponsiveness, hypertensive crisis, and stage 3 chronic kidney disease. The first episode of NS occurred at 5 years old. She was treated with methylprednisolone, mycophenolate mofetil, and tacrolimus, but there was no improvement. Further treatment combined methylprednisolone, tacrolimus and rituximab for 450 mg, administered 2 times within 2 weeks interval. Evaluation after administration of RTX CD20 in the patient's peripheral blood was 0.2%, the patient's blood pressure normalized, and the patient's urinary protein creatinine ratio (uPCR) result was 0.3g/gCr.

Conclusion : RTX significantly improves proteinuria. Further close monitoring and precise combination treatments would be a promising treatment for SRNS children. Relapse after RTX administration is often associated with an increase in CD20 count. Rituximab may reduce disease activity and increase sensitivity to immunosuppressant drugs. A national policy to facilitate children with SRNS to get this drug is urgently needed.

Keywords : CD20, Nephrotic Syndrome, Promising Treatment, Rituximab, Steroid Resistant

MISCL 25

Prevalence and Co-Prevalence of Comorbidities in Pediatrics Patients with Down Syndrome in Dr. Sardjito General Hospital: A Cross-Sectional Study

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Background/objective: Down syndrome (DS) is a disease caused by trisomy of chromosome 21. The phenotype in DS leads to manifestations in several organ systems. This study aimed to describe comorbidities in pediatric patients with DS.

Methodology: This was a single-center, cross-sectional study at Dr. Sardjito General Hospital, Yogyakarta. Medical record data of pediatric patients with DS from January 2022 - May 2023 were included. Descriptive statistics were performed to show demographic and clinical characteristics.

Results: From a total of 355 pediatric patients with DS at Dr. Sardjito Hospital, 339 children (95.49%) were found to have comorbid conditions. The most common comorbidity was congenital heart disease (64.79%) with most frequent abnormalities, including Atrial Septal Defect (41 children), Atrioventricular Septal Defect (29 children) and Patent Ductus Arterious (28 children). The second most common comorbidity was endocrinologic disorders (28.73%) with 101 children suffering from hypothyroidism. 20.29% of DS pediatric patients had more than one comorbidity category, with 60 children with 2 comorbidities (16.90%) and 12 children with ≥3 comorbidities (3.39%). The highest co-prevalence of patients with 2 comorbidities was combination of congenital heart disease and endocrinologic disorders (10.14%), while the highest co-prevalence of patients with ≥3 comorbidities was combination of congenital heart disease, visual impairment, and auditory impairment (1.69%).

Conclusion: The prevalence and co-prevalence of comorbidities in pediatric patients with DS in Yogyakarta showed 95.49% had comorbid conditions, whereas 20.29% had more than one comorbid. Patients with DS who have comorbid conditions may require more careful attention to prevent complications and reduce morbidity.

Keywords: Children, Comorbidities, Down Syndrome,

MISCL 48

Aplasia Cutaneous Congenita type VI: A Case Report from a Remote District Hospital

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Objective: Aplasia cutis congenital (ACC) is a rare condition characterized by localized absence of the skin. ACC type VI or Bart Syndrome is a complex clinical and incurable disease with the involvement of extracutaneous manifestations.

Case: A 20- day- old male newborn was referred from the Sikabaluan Health Center with pneumonia and scars on scalp, both arms and legs since birth. The 2600 grams baby was born from G1P0 mother at full term, spontaneously delivery assisted by midwife. There are no history of parents consanguinity, infection or consumption of teratogenic drugs during pregnancy and birth trauma. Family history of similar skin complaints was denied. On physical examination, there were rapid breathing accompanied by deep retractions, multiple excoriations in the scalp, antebrachial, manus, genu, tibial and pedis regions with a symmetrical distribution, accompanied by multiple bullae scattered around the buttocks, erosion of the hard palate, and anonychia on all fingers and toes. Routine blood tests found leukocytosis and pneumonia on the radiology picture. Based on the history, physical and supporting examinations, ACC type VI and pneumonia was made. The patient was treated with intravenous antibiotics, wet gauze dressing, and discharged after 33 days of treatments. The parents were given an explanation about the illness, treatment at home, and prognosis.

Conclusion: Aplasia Cutaneous Congenita Type VI or Bart's syndrome is diagnosed using the Frieden criteria, characterized by triad ACC in the lower extremities, epidermolysis bullosa and nail abnormalities. ACC type VI is the rarest form, with incidence of approximately 1:1.000.000 newborns.

Keyword: Aplasia Cutis Congenita type VI, Bart's syndrome, Pneumonia

MISCL 79

The Conservative Managements of Kasabach-Merritt Syndrome

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Background: Kasabach-Merritt syndrome (KMS) is a rare condition characterized by developing Kaposiform hemangioendothelioma and consuming platelets and blood clotting factors within the tumors, leading to severe thrombocytopenia and coagulopathy.

Objective: to report a Case of KMS successfully treated with oral corticosteroid, packed red cell, and fresh frozen plasma transfusion.

Case : A 0-day-old female was referred to our hospital because of a bluish-red lump with a firm border on the left leg from the inguinal until the ankle joint and icteric on the skin since birth. She has not any significant risk factors for hemato-oncologic disorder. Magnetic resonance angiography suggested a hemangioma-like appearance on the left femur until genu. The laboratory examinations revealed anemia, thrombocytopenia, prolonged partial thromboplastin time and activated partial thromboplastin time, elevated D-dimer, low fibrinogen levels, and high indirect bilirubin levels. The head magnetic resonance imaging leads to cavernous hemangioma in the right frontoparietal and left parietal lobes, subarachnoid hemorrhage, intraventricular hemorrhage, and multiple micro bleeding with hyperacute to chronic bleeding. The surgical, chemotherapy, and radiotherapy couldn't be carried out because the lesion was too large and had bad laboratory parameters. She was treated conservatively using oral corticosteroid 5mg/kgBW/day, packed red cell and fresh frozen plasma transfusion, and topical treatment with silver sulfadiazine for the lumped skin. After 30 days of treatment, the condition was stable, the size of the lump decreased, and the laboratory parameters improved. She was discharged in good condition.

Conclusion: The conservative managements of Kasabach Merritt syndrome effectively improves clinical conditions and quality of life.

MISCL 80

Successful Treatment of Fournier's Gangrene with Acute Kidney Injury

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Objective: Acute Kidney Injury (AKI) due to various causes, particularly infections, is the biggest challenge for pediatricians. One of the rare causes of AKI in children is the fatal progressive infection, Fournier's Gangrene (FG). Early diagnosis, prompt resuscitation, aggressive surgical debridement, broad-spectrum antibiotic coverage, and continuous monitoring are essential for good outcome.

Case: A 17-year-old boy was admitted to the hospital with complaints of fever, scrotal pain, swelling for 7 days and oliguria for 2 days. On examination, he was unconscious and pale. His vital signs were inadequate with signs of shock. Local examination of the scrotum showed it to be enlarged, edematous, and tender with palpable crepitations. There was patchy gangrene throughout the scrotum with foul-smelling purulent discharge (Figure 1). A provisional diagnosis of AKI due to septic shock and FG was made. The patient was intubated and resuscitated. Broad-spectrum antibiotics were started. Renal function was abnormal with a glomerular filtration rate of only 20.2. Emergency surgical debridement was therefore postponed. He was stabilized with mechanical ventilation and hemodialysis. After two rounds of hemodialysis and close monitoring for 4 days, the patient's condition improved and emergency debridement was performed. The patient had an excellent postoperative response to treatment. He was discharged on postoperative day 22 with free hemodialysis.

Conclusion: Despite its rarity, AKI caused by Fournier's gangrene remains a formidable disease with severe complications. An improved approach to multimodal therapy in this Case is urgently needed to reduce the high mortality and morbidity.

Keywords: Fournier’s Gangrene, Hemodialisis, Acute Kidney Injury, Nephrotic Syndrome, pediatrics

MISCL 85

Nasal high-frequency oscillatory ventilation to prevent extubation failure

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Objective: Nasal high-frequency oscillatory ventilation (nHFOV) is a new mode of non-invasive ventilation and has the advantage of both high-frequency oscillatory and nasal continous positive airway pressure (nCPAP). In theory, nHFOV can reduce the risk of hypercapnic respiratory failure better than nCPAP and can be used as an alternative for postextubation infant to minimize reintubation. Here we present a Case of 1-month infant with ventilator-associated-pneumonia receiving nHFOV postextubation.

Case: A 45-days old infants with respiratory distress syndrome, ventilator associated pneumonia, and lung atelectasis was prepared for extubation after using invasive ventilation for over a month. The patient has been reintubated twice due to extubation failure. Bronchoscopy showed mucoid hypersecretion and tracheobronchitis and rhino-pharyngo-laryngoscopy showed mild laryngeal edema. At first, nasal intermittent positive pressure ventilation (NIPPV) was used as postextubation respiratory support. About 12 hours after extubation, the patient had respiratory distress and blood gas analysis showed respiratory acidosis. NHFOV was then used. One hour after nHFOV, respiratory distress and blood gas analysis was improved. Respiratory improvement achieved after 10 days in nHFOV. Furthermore the nHFOV was switched to nCPAP. The patient was discharged a month after that. No complication such as pneumothorax, epistaxis, or intraventricular hemorrhage was found in this patient.

Conclusion: NHFOV therapy can be used as postextubation respiratory support in infants. It was efficient for carbon dioxide clearance and can reduced the need for reintubation.

Keywords: nasal high-frequency oscillatory, postextubation, neonates.

MISCL 88

Neonatal Sepsis due to an Unusual Pathogen: *Pantoea agglomerans*

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Background: *Pantoea agglomerans* is an unusual pathogen causing neonatal sepsis. Prematurity and an immature immune system are major risk factors for this infection in newborns. Neonatal sepsis due to *P. agglomerans* has a high mortality rate and the most common cause of death is septic shock. Ventricular dysfunction is a severe complication that occurs due to circulatory failure. Echocardiography is the most frequently used tool to diagnose sepsis-related ventricular dysfunction. Resistance patterns restrict the choice of treatment, so appropriate antibiotics administration could be lifesaving.

Case: A baby boy was born to a 24-year-old mother, P_1A_1, 34th-week pregnancy, by a cesarean section indicating impending eclampsia. The baby's weight was 1420 grams, APGAR score was 4/6. At 4 days of age, the baby was suspected of having neonatal sepsis and deteriorated rapidly. On physical examination, the baby looked lethargic with fast breathing, skin mottling, and hypotension. Laboratory results revealed severe thrombocytopenia (15.000/uL), high CRP level (18,06 mg/dL), hypoalbuminemia (2,21 g/dL), high troponin-I level (0,16 ng/mL). Blood culture was positive for *Pantoea agglomerans.* The echocardiogram showed dilated left atrium and ventricle, mitral regurgitation, left ventricular dysfunction with ejection fraction of 43% and fraction shortening of 19,8%. The baby was treated with antibiotics according to sensitivity results, inotropic agent, and mechanical ventilation to support cardiopulmonary failure. The baby had good clinical improvement within 14 days of treatment.

Conclusion: Performing echocardiography is important to evaluate hemodynamic function. Appropriate treatments can provide a good outcome in neonatal sepsis.

Keywords: Echocardiography, Neonatal sepsis, *Pantoea agglomerans*, Septic shock

MISCL 92

Ischemic Stroke in Pediatric Rheumatic Heart Disease: Diagnostic Approach and Management Strategies

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Background: Rheumatic heart disease (RHD), a sequel to acute rheumatic fever (ARF), cause significant morbidity and mortality in developing countries. Congestive heart failure and stroke affect one-fifth of RHD patients over two years. Acute ischemic stroke is one of the acute neurological emergencies that could impact one's quality of life. Prompt diagnosis and management are needed to prevent this disease's sequelae and poor outcomes in the future.

Case: A thirteen years old boy was admitted due to sudden left-sided weakness. His symptoms were preceded by fever and sore throat, followed by chest pain, orthopnea, and dyspnea on exertion. Physical examination found a holosystolic murmur on the left midclavicular line, left hemiparesis and central cranial nerve VII palsy. The laboratory results showed an increased C-reactive protein. The echocardiography result confirmed severe mitral regurgitation. Brain CT scan and MRI results confirmed infarcts on the right frontoparietal, putamen, caudate nucleus, and mesencephalon, with haemorrhage transformation. The findings support the diagnosis of acute ischemic stroke and RHD. He was given anticoagulants and antimicrobial prophylaxis and scheduled to undergo a valve replacement procedure.

Conclusion: Acute ischemic stroke should be considered one of the RHD complications. Literature regarding pediatric acute ischemic stroke in RHD is still limited. Current recommendations for acute ischemic stroke include anticoagulant therapy, such as UFH/LMWH or aspirin. Prompt and adequate antimicrobial prophylaxis for ARF could prevent the disease's recurrences and complications.

Keywords: ischemic stroke, rheumatic heart disease

MISCL 93

The Characteristic of Children with Down Syndrome in Bandung

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Background : The most severe aneuploid condition is Down syndrome with estimated 1 Case every 1000 births. Meanwhile, study in Indonesia is still limited. This study aim to describe the characteristic children with down syndrome especially in Bandung.

Methodology : This is descriptive cross sectional study conducted in Padjadjaran University Bandung during March 2023. We records the birth history, risk factors, developmental status, physical examination and others comorbid condition from member of Down Syndrome Community in Bandung.

Result : In total 50 patient, only 47 patients meet intrinsic criteria. The 55% of patients are male (55%), aged 0-6 years old (47%). Most of them have normal nutritional status, meanwhile 23% are microcephaly. The average age of the mother are 35 years old and 13% of the patient have family history. All of the patient have delayed developmental history and majority have mild intellectual disability. Not all Case have Down Syndrome phenotype, flat nasal bridge (89%) is the most common physical characteristic. Neurological examination showed 81% hypotonic and decrease physiological reflexes. The majority of the patient have VSD, 4 patients have history of seizure and 2 patients are hypothyroid. In this study, 49% of the patients had performed chromosome analysis test with 21+ trisomy result.

Conclusion : Down syndrome perform a wide spectrum of clinical signs and symptoms. This condition also related with other comorbidities condition. The comprehensive examination is needed to diagnosed and give proper management.

Keywords : Down Syndrome, characteristic, children

MISCL-2-02

Mental and Emotional Health Problems Among School Adolescents In East Manggarai Regency, East Nusa Tenggara

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Background : Adolescence is a critical period of mental and emotional changes. Many adolescent problems were manifested in the form of emotional, conduct, hyperactivity, and peer-related problems. Little is known about its prevalence in East Manggarai Regency. This study aimed to assess the prevalence of mental and emotional health problems among school adolescents in East Manggarai Regency, East Nusa Tenggara.

Methods : A cross-sectional study was conducted in seven Junior High Schools and one Senior High School in East Manggarai. Determination of the school's sample using a purposive sampling technique. 334 adolescents (aged 12-18) were included for data analysis. A self-reported strengths and difficulties questionnaire (SDQ) was used to assess the mental health status of the adolescents, which is presented in a descriptive narrative.

Results : The results indicated that 30.8 % of adolescents had emotional symptoms in the abnormal range, 24.9% of adolescents had an abnormal range for conduct problems, abnormal hyperactivity was found in 2.4% of adolescents and abnormal peer problems were found in 4.5%. In the domain of prosocial, 3% of adolescents were abnormal and total difficulties were 16.8% abnormal. Emotional problem was found significantly higher in female than male respondents. We also found that hyperactivity and total difficulties were significantly higher in junior high school students.

Conclusion: Emotional problem was the most common mental health problem affecting three out of ten adolescents. Early detection and intervention with the aid of primary health care can help adolescents cope with issues and for a healthy transition into adulthood.

Keywords : Adolescents, Mental Emotional Problems, SDQ

MISCL 21

Characteristics and Outcomes of Very Low Birth Weight Infants in Majalaya General Hospital, Bandung Regency in 2022

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Background: Very Low Birth Weight (VLBW) is a significant health concern in Indonesia, resulting in high morbidity and mortality rates. Characteristics diversity has an impact on regional VLBW in Indonesia. This study aimed to describe the characteristics and outcomes of VLBW infants at Majalaya General Hospital, Bandung Regency.

Methodology: This cross-sectional study used secondary data from medical records and the neonatal registry at Majalaya General Hospital from January 2022 to December 2022. Subjects were newborns with birth weights of 1000 to 1499 grams. Categorical data were presented in percentages.

Results: There were 54 VLBW infants admitted to Majalaya General Hospital, representing a prevalence of 3.7%. Most of the subjects were male (57%), location of delivery at Majalaya Hospital (52%), born spontaneously (82%), and singleton births (79%). The average birth weight of infants was 1331 grams with a median gestational age of 31 weeks. The mortality rate was 25% and the median length of hospitalization was 23 days. The most common cause of morbidity was hyaline membrane disease (77%), sepsis (50%), and neonatal hyperbilirubinemia (48%).

Conclusion: The prevalence of VLBW in this study is 3.7%. However, the mortality rate is quite high (25%) in our hospital. Hyaline membrane disease was the most common morbidity (77%). Our preliminary data may be used to establish the profile of VLBW in Indonesia, to improve neonatal healthcare in peri-urban health centers.

Keyword: very low birth weight, characteristics, mortality

MISCL 23

Noteworthy Outbreak: Acute Kidney Injury in Children caused by Ethylene Glycol/ Diethylene Glycol Poisoning – Two Case Reports of Contradictory Prognoses

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Objective: Between August and November 2022, Indonesia experienced an outbreak of progressive atypical acute kidney injury in children. MISC was initially suspected to be the cause. However, even after undergoing multiple hemodialysis cycles, the patient's condition remained stagnant, indicating no significant progress in their health. In mid-October 2022, it was discovered that antipyretic syrup was the culprit, which ethylene glycol/diethylene glycol (EG/DEG) was being ingested in small doses at regular intervals. Fortunately, there was a silver lining to this unfortunate situation as it has been confirmed that giving fomepizole, an alcohol dehydrogenase inhibitor, was found to be an effective treatment, leading to improved clinical outcomes despite opposing prognoses.

Case: Two Cases of one-year-old Indonesian children were admitted due to anuria. The first patient, a girl, had two days of anuria and had received antipyretic syrup for suspected dengue fever fourteen days prior. The second patient, a boy, had eight days of anuria, shortness of breath, and edema. He had received antipyretic syrup for diarrhea followed by fever fourteen days prior. Both patients received fomepizole and were under intensive care in the PICU. Along with fomepizole, hemodialysis was also done. The assessment of patient progress involves a thorough analysis of clinical observations and laboratory test outcomes, taking into consideration a range of factors such as renal and hepatic function indices, urinary output, and intubation duration. The treatment proved effective for both patients, although results varied.

Conclusion: Despite receiving the same treatment, a patient’s prognosis can vary due to numerous contributing factors.

Keywords: Progressive Atypical Acute Kidney Injury, Fomepizole, Ethylene Glycol, Diethylene Glycol, Poisoning

MISCL 43

Relationships between Delivery Mode with The Incidence Weight Faltering of Infants in Annisa Mother and Child Hospital

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Background: The prevalence of stunting in Indonesia is 21,6% and in south Kalimantan, it reaches 24,6%. Weight loss, or failure to gain normally, is often the first sign of pathology. One study found that on day 25, babies born by cesarean section had significantly higher weight gain than those born vaginally, while another found that by day 28, babies born vaginally gained more weight per day than those born by c-section. This study aimed to find the relationship between delivery mode with the incidence of weight faltering of infants.

Method: The study design used in retrospectives. The research in Annisa Mother and Child Hospital. The population is all babies born either in Sectio Caesaria or vaginally in January – June 2023. The independent variable was the delivery mode and the dependent variable was the incidence of weight faltering. Data collection techniques using medical records. Data processing using editing, coding, scoring, and tabulating. Data were analyzed using Chi-Square.

Results: Total sample is 124 respondents. Based on the result of the study, from 69 respondent c-section, 38 respondents (55,07%) weight faltering, and from 55 respondent vaginal birth, 20 respondents (36,36%) weight faltering. After the statistical test with Chi-Square obtained there is significant relationship because the P value φ (0,038) < 0,05

Conclusion: This study concludes that there is significant relationship between delivery mode with the incidence of weight faltering. Monitoring Cesarean-delivered infants closely for excess weight gain may help guide primordial prevention of weight faltering later in life.

Keywords: Normal childbirth, Sectio Caesaria, Weight Faltering

MISCL 55

Giant Congenital Melanocytic Nevus in A 2 year-old Boy : A Case Report

Dianing Latifah

RSUD Ali Manshur Tuban

Background : congenital dark-colored patch of skin with diameter larger than 20 cm is a rare skin condition called giant congenital melanocytic nevus (GCMN) which could be present at birth or within first year of life. The incidence is estimated 1:20.000 newborns worldwide, while in Indonesia there's some recorded Case reports. As the lesion may grow symmetrically to the child's grow, it also escalate greater risk in developing melanoma or neurocutaneous melanosis (NCM).

Case : a 2.5 year-old boy came with complaints of profuse vomiting and fever up to 38.5°C without abdominal pain or diarrhea. He looked weak with signs of mild-moderate dehydration. From physical examination there were large dark-colored lesions over his body cover up mostly his chest and back, with smaller lesions generally distributed in the head, hand and feet. All larger lesions have hairy surface unlike the smaller ones. Growth and developmental history showed no significant problems, with no history of any neurological diseases. Laboratory resulted anemia with hypochromic microcytic, normal kidney function and slight increased transaminase. Further iron profile showed increased TIBC but borderline low SI. The main therapy was to rehydrate and treat his gastroenteritis. Since anemia is common finding in cancer patients, aside given iron therapy this patient will undergo melanoma diagnostic process.

Conclusion : children with GCMN need to be followed up multidisciplinary in lifetime as the risk of melanoma or neurological disease increased by age.

Keyword : giant congenital melanocytic nevus, children, anemia, melanoma

MISCL 86

Characteristic of Stunted Children in Bandung District

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Objective: Across the globe, 149 and 49 million children are stunted and wasted, respectively. Malnourished is still a significant public problem in low- and middle-income countries, including Indonesia. In 2023, more than two million children suffer from severe wasting, and more than seven million children under five years old are stunted. The purpose of this study is to describe the anthropometry of children between 24 to 60 months of age in the Bandung district.

Methodology: This study is non-experimental with an observational descriptive approach children in Bandung district. Data were collected using the WHO growth chart with two anthropometry dimensions consisting of height and weight measurement. The sample in this study was children between 24 to 60 months with simple random sampling techniques across households in sub-districts of Bandung district.

Results: In our research there were 194 children (age 24-60 months old), mostly male 34,9% had stunted. Our findings showed that children in Bandung district in 2022, measured by weight, are 2,5% severely wasted [standard deviation (SD) <-3], 12,3% wasted (-3<SD<-2), and 85% normal (-2<SD<1), and measured by height are 13,8% severely stunted (SD<-3), 21,1% stunted (-3<SD<-2), and 65,1% normal (-2<SD<3).

Conclusion: In this study, 34,9% are stunted children. Although most children have normal nutrition status, several children still suffer from wasted and stunted, and the determinants are not yet known. Parental demographic factors are suspected to have a role. This study recommends that the community, especially parent, observe their children's growth more.

Keywords: Children, anthropometry, wasted, stunted

MISCL 87

Emerging Cases of Omphalitis in Jakarta, Indonesia: ACase Report

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Background: The umbilical cord is a vascular-rich structure which may provide risks of severe infections with improper handling upon its severance. Improper treatment of omphalitis may cause necrotizing fasciitis and sepsis, with high mortality rate. This report aimed to remind healthcare practitioners to always educate parents on proper umbilical cord hygiene, especially following hospital discharge to prevent emergence of omphalitis Cases in Indonesia.

Case: A 20-day-old newborn came to the hospital with a fever 2 days prior to hospital admission. At the age of 13-days, the patient's umbilical cord stump fell off. Redness around the cord and foul smelling discharge from the stump was observed. Alcohol cord care was performed for five days, followed by dry care, as instructed by the healthcare providers. Abdominal examinations showed a red, swollen, distended stomach around the umbilicus, with pus oozing from the wound. Abdominal tenderness was observed upon palpation. Laboratory tests showed elevated infection markers, and *Staphylococcus epidermidis* was isolated from the wound. Intravenous antibiotics and supporting medications were given for two weeks. The wound was treated with dialkylcarbamoylchloride (DACC) hydrogel followed by topical honey upon discharge. Minimal scarring was found with no significant sequelae seen.

Conclusion: Early detection and treatment of omphalitis is very important in preventing the emergence of omphalitis in Indonesia. Dry cord care is the method of choice for umbilical cord handling while moist wound care should be chosen if poor stump healing is found. Intravenous antibiotic administration should not be delayed once the diagnosis of omphalitis is established.
Keywords: omphalitis, umbilical infection, neonatal infection

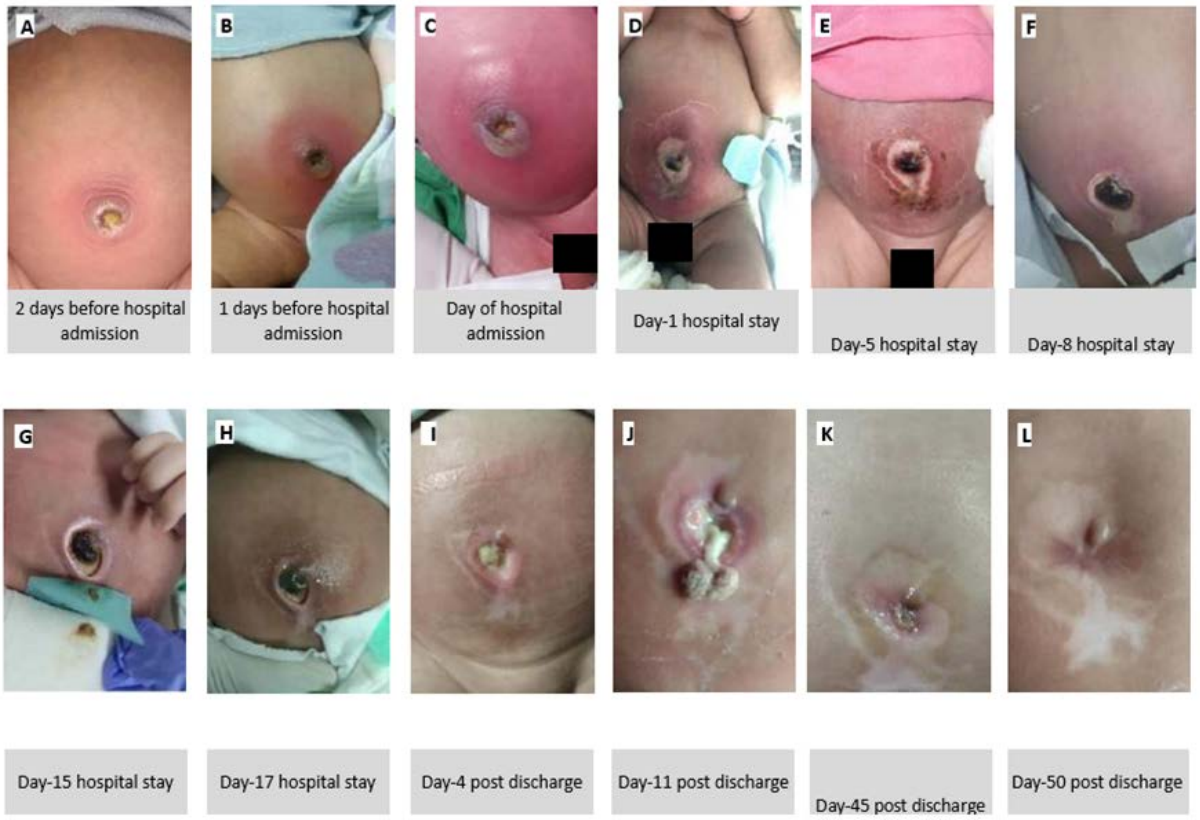

Figure 1. Umbilical cord wound the day of hospital admission until day-50 post discharge

MISCL 90

Factors Influencing Hospital Malnutrition in Hospitalised Children at Haji Adam Malik Hospital Medan

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Background: Hospital malnutrition is a nutritional deficiency that develops during hospitalisation and is characterised by a decrease in body mass. Hospital malnutrition is associated with several factors, including decreased food intake, disease severity, and age. There are no recent statistics regarding the causes of hospital malnutrition in children at Haji Adam Malik General Hospital. This study aims to identify the factors that influence hospital malnutrition at Haji Adam Malik General Hospital in Medan.

Methodology: We conducted a prospective cohort study among hospitalised children aged 1 month to 18 years at Haji Adam Malik General Hospital from January 2022 to July 2022. A total of 63 children (16 Cases and 47 controls) were selected and screened using The STRONGkids questionnaires. The nutritional status was determined using WHO weight for height growth chart and CDC growth. Anthropometric measurements were taken upon hospital admission and discharge. The statistical analysis was done by using Chi-square and Mann-Whitney test.

Results: Several factors such as age, gender, nutritional status, underlying disease, and length of hospitalization were associated with hospital malnutrition. The median age of children was 7 years and males were 55.6%. Hospital malnutrition patients had greater median LOS (9 days vs 6 days, $p<0.005$). The only significant factors associated with hospital malnutrition was length of hospitalization (RR: 5.08, 95% CI: 1.6-16.1).

Conclusion: The majority of children exhibited a moderate risk of malnutrition, as determined by the STRONGkids method. In this study, the length of hospitalization was the only significant factor for hospital malnutrition.

Keywords**:** Hospital malnutrition, length of hospitalization, nutritional status, STRONGkids

MISCL 28

Indonesia's AEFI Report on Routine Immunization in 2022

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Objectives: Vaccines has showed exceptional performance in controlling and eradicating vaccine preventable diseases (VPD) especially in children. However, concerns over vaccine safety also increased along with the increasing immunization rate. This study aimed to evaluate the safety profile of routine immunization in Indonesia's children in 2022 by describing the AEFI reports based on the NC-AEFI data.

Methods: This passive surveillance study used collected data from the national vaccine safety website from January 1st 2022 – December 31st 2022. Adverse event (AE) is a medical event occurred after immunization and resolved naturally. Meanwhile Serious AE (SAE) is AE that resulting in hospitalization, disability, mass commotion, even death. Every child who experienced AEFI and reported to the healthcare facilities would be documented in the website and analyzed. SAE will be investigated by the healthcare center, local district, followed with causality assessment by the local and NC-AEFI.

Results: There were 7,305 AEFI reports (7.34/1M doses) following 41,584,292 doses of routine immunization administered to Indonesia's children under 2 years old in 2022. The total of SAEs reported were 27 Cases (0.63/1M doses) which occurred the most in Measles-Rubella vaccine (12 Cases). The SAEs classified as 26 coincidences and 1 unclassifiable. Out of 27 SAEs, 11 death Cases reported with majority classified as coincidence (unrelated with the vaccines). There were 7,278 AE Cases (170.34/1M doses) with most Cases reported in DPT-HepatitisB-HiB vaccine. The most common adverse events were fever, local symptoms (swelling, pain and erythema).

Conclusion: The SAE/AEs after routine immunization in Indonesia were generally tolerated.

Keywords: AEFI, routine immunization, vaccine, children

MISCL 29

Analysis of Saliva Cortisol Levels in Preterm Infants Using Mechanical Ventilator

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Background: Preterm infants susceptible to severe respiratory distress are usually treated with mechanical ventilators. Unfortunately, mechanical ventilator can cause stress-induced pain. Salivary cortisol could be used to assess stress response due to mechanical ventilator. This study aimed to analyze the salivary cortisol in preterm infants on mechanical ventilator application.

Methodology: This was a prospective observational study design to compare salivary cortisol levels before and 60 minutes after mechanical ventilator application. This study was conducted from August 2022 to April 2023 at Wahidin Sudirohusodo Hospital (WSH), Indonesia. First salivary samples were taken before intubation and intravenous fentanyl administration, then at 60 minutes of mechanical ventilator application, the second salivary samples were taken for analyzing using Elisa method.

Result: 30 preterm infants were enrolled. The salivary cortisol levels decreased 60 minutes after mechanical ventilator application (3,58 vs 2,45 ng/ml), p=0,021. There was no significant difference in cortisol levels based on gender, type of birth, birth weight, and antenatal steroid usage.

Conclusion: Salivary cortisol in preterm infants was decreased during mechanical ventilator application.

Keywords: Salivary Cortisol, Ventilator, Preterm Infants.

MISCL 40

Intracranial Haemorrhage in A 2-month-old Baby Boy with Vitamin K Deficiency Bleeding Suspect in Duren Sawit Hospital: A Case Report

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Objective: Vitamin K Deficiency Bleeding (VKDB) is a rare Case but potentially fatal disorder that affects 4,4-10,5 per 100.000 live births. The late-onset VKDB typically affects exclusively breastfed infants who have malabsorption or cholestasis and manifests between the second week and the sixth month of life. It has an incidence of 1/15.000-1/20.000 births. Intracranial haemorrhage is the most common presenting manifestation of late-onset VKDB in approximately 50% and carries a significant morbidity and mortality rate. This Case will discuss intracranial haemorrhage in a 2-month-old baby boy with VKDB suspect.

Case: A 2-month-old baby boy was admitted to ER with a tonic-clonic seizure on the left side and pale. He has travel history about 82 km by motorcycle. He was born through spontaneous vaginal delivery in the hospital and exclusively breastfed. At the former vein puncture, the bleeding was difficult to stop. He was lethargic and somnolence. His anterior fontanelle was bulging and pulsating. The laboratory result was anaemia and the CT scan without contrast result was intracranial haemorrhage. He received PRC and FFP transfusion, vitamin K, and craniotomy. His condition improved, but after two months of follow up, microcephaly, limb spasticity, and delayed milestone were found.

Conclusion: VKDB can be prevented by administration of vitamin K prophylaxis at birth. However, late-onset VKDB is still possible in infants receiving vitamin K prophylaxis at birth and exclusively breastfed infants with diseases that impair vitamin K absorption. In this patient, it is ideal to carry out further examinations to determine the underlying disease.

Keywords: VKDB, Intracranial Haemorrhage, Vitamin K

MISCL 47

PDDST-II: Consistency of Autism Screening by Parents and Doctor in Depok Child Growth and Development Clinic

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Background: The Pervasive Developmental Disorders Screening Test-II (PDDST-II) is a screening tool commonly used by non-specialist clinicians for Autism Spectrum Disorder (ASD). This screening tool is designed for children around 18 months of age to distinguish children at risk of autism. PDDST-II screening uses series of questions asked to parents or caregivers that can be used to decide, when to immediately refer a child to a competent doctor in their respective fields for more thorough evaluation.

Method: This study uses Cross Sectional Research to evaluate and analyse 24 children who had the tendency to be diagnosed with ASD between the age of 2 to 6 years old at Child Growth and Development Policlinic, Hermina Hospital Depok using the PDDST-II screening tool, with 23 questions given to both parents and doctor to identify the level of consistency between their assessments.

Result: The analysis had an intraclass correlation coefficient (ICC) value of 0.903 that showed a high level of alignment or consistency between parents and doctor in ASD screening using PDDST-II. Both parents and doctor as the observers of the children had an excellent degree of accuracy in measuring the same subjects.

Conclusion: PDDST-II showed a high level of consistency between parents and doctor in ASD screening and is a useful tool for non-specialist clinicians. PDDST-II result cannot be used as a medical diagnosis, as it only provides an early screening and needs to be followed by further assessments by a competent doctor in their respective fields.

Keywords: PDDST-II, Suspect ASD, Screening tool's Consistency, Parents and Doctor

MISCL 60

Diagnostic and Management of Chylothorax in Peretem Baby

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Objective: Chylothorax is a lymphatic fluid extravasation through a pleural space. This condition is one of the causes in neonatal pleural effusion, this happened about 1 to 15.000 birth in one year. This abnormality was link to other genetic abnormalities such as Turner syndrome, Noonan syndrome or Trisomy 21. Chylothorax in neonates could increase a mortality rate about 20-60%. The lymphatic fluid accumulation in pleural space could damage the function of the lungs and heart, also increase the risk of malnutrition and severe immunodeficiency. The management was drainage the fluid and decrease the chyle production using a stepwise approach.

Case: A 35 week late preterm baby born through c-section delivery due to rupture of membrane. The ultrasound in the emergency room shows a pleural effusion as well as ascites and hydronephrosis. The baby was born bradicardic, cyanotic and apnetic. An immediate endotracheal intubation and positive pressure ventilation was required. He was immediatly rushed into the NICU chest tubes was inserted into both chests, also starting a total parenteral nutrition and antibiotics. The pleural effusion starting to resolve and the patient was ready to be given an enteral nutrition. Within 48 hours prior to enteral feeding, the pleural effusion starting to change color into white milky with slight yellow color. The analysis shows high number of cell count especially in mononuclear cells as well as high number of triglycerides. The patient was diagnosed with chylothorax and non immune hydrops fetalis. He was hospitalized for 60 days given high MCT formula, octreotide and antibiotics. Prognosis of the patient was relatively good after the treatment.

Conclusion: To diagnose a chylothorax clinical diagnosis and pleural fluid analysis was needed. The management including a dietary modification using high medium chain triglycerides (MCT) formula that could reduce the flow of chyle through thoracic duct.

MISCL 82

Factors Affecting Cigarette and Vape Advertisement Literacy in Teenagers Living in Orphanage

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Objective: Advertisement literacy (AdLit) is paramount in mitigating the impact of tobacco marketing on youth, especially on those living in orphanage. This is because adolescents in orphanage face various developmental challenges, such as lack of secure attachment. However, information regarding AdLit of teenagers in orphanage is limited. The current study provides baseline data on cigarette and vape AdLit among teenagers in orphanage.

Method: A cross-sectional study involving 115 teenagers from orphanages in Lampung and Jakarta was conducted. We presented one cigarette and vape advertisement. After that, the participants were asked to complete a questionnaire regarding AdLit, which includes: whether the advertisement captured their attention, tempted them to buy the products, and make them feel annoyed. Additionally, we examined the potential effects of gender, age, and school type on participants' AdLit.

Results: Most of our participants fell short in their understanding of cigarette (71.4%) and vape (76.5%) advertisements. We also found that 85.2% and 95.1% of boys demonstrated poor AdLit towards cigarette and vape advertisement, which is significantly higher than the female counterparts (62.96% and 52.3% respectively). Our study showed that age doesn't affect Adlit ($p>0.05$), and similarly, the type of educational institutions—whether they attend Islamic (44.3%) or public (55.7%) schools—does not manifest any distinctions.

Conclusion: A significant number of teens still lack a sufficient grasp of AdLit towards cigarette and vape. This study proved that gender is significant factor of youth's AdLit, while age and choice of education do not influence youth's proficiency on cigarette and vape advertisement.

Keyword: Teenagers, Orphan, Advertisement, Cigarette, Vape

MISCL 89

Immunoglobulin and Rituximab Administration in Management of Relapse Anti-N-methyl-D-Aspartate Receptor Encephalitis: A Case Report

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Objective: Anti-N-methyl-D-aspartate receptor (anti-NMDAR) encephalitis is a type of autoimmune encephalitis caused by the production of autoantibodies against the NR1 NMDAR subunit in neurons. It is the most common type of autoimmune encephalitis that mostly occurs in children and in young people. Immunotherapies are the key managements in this disease, not only for its main treatment, but also for preventing relapses. Some patients are non-responder to the first-line immunotherapy. The combination between immunoglobulin and rituximab can be used in such Cases.

Case: A 13-year-old girl visited the emergency room with the chief complaint of excessive aggressiveness 1 day before admission. She had a history of seizures accompanied with cognitive and behavioral disturbances since December 2021. She had unremarkable personal and family history of mental disorders. NMDAR antibody was found on her cerebrospinal liquid and she was diagnosed with NMDAR Encephalitis in February 2022 and was given first-line immunotherapy. The response was quite good initially but she experienced 2 relapses in a year. She had received 5 cycles of methylprednisolone high dose, plasmapheresis, IVIG, and Rituximab. The patient has received her second course of IVIG with rituximab and these will be given each month for six months, and currently there is some improvement.

Conclusion: Children with anti-NMDAR encephalitis that had been treated with first-line therapy still have the risk of relapse especially within 24 months of diagnosis. When the first treatment showed insignificant results or the patient had a relapse, IVIG and rituximab may be given.

Keywords**:** Children, IVIG, Rituximab, NMDAR, Relapse

MISCL 17

Acute Tetraparesis in Juvenille Tuberculous Spondylitis Mimicking Myelitis Transversa

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Ni Putu Siadi Purniti, Ida Bagus Subanada, Ayu Setyorini

Background: Tuberculous spondylitis is an infectious disease caused by Mycobacterium tuberculosis which affects the spine. It remains a problem in the pediatric population, particularly in developing countries including Indonesia. The clinical manifestation of tuberculous spondylitis is not typical and can mimic with other diseases.

Case: A 16-year-old boy came to the hospital with acute progressive limbs weakness since one week before hospital admission, accompanied with other symptoms such as back pain, urinary retention and decreased body weight. Intravenous steroid was given but no improvement. Rapid molecular test for TB was negative, chest X-ray did not show pulmonary tuberculosis, but mantoux test was positive. Spinal MRI showed anterior compression at vertebral body C4 forming acute kyphotic angle with retropulsion causing spinal canal stenosis, compression and edema, destruction of the superior end plate and compression of the vertebral body L4, and prevertebrae soft tissue mass at the level of vertebral body C2-5, Th5-7, L3-S1. Patient was administered with fixed-dose combination antituberculosis therapy and planned for decompression, stabilization, and fusion with biopsy and culture. Patient was discharged with slightly improvement in motoric strenght but no sensory and autonomic dysfunction. At the 8th month follow up, patient could do all activities independently.

Conclusion: Tuberculous spondylitis is a complex disease problem with varied clinical manifestations. Spinal MRI examination is necessary to establish the diagnosis and follow up of the disease. Antituberculosis therapy is the main role in the recovery and response of patients. Surgical management is determined by the presence of paraplegia or spinal deformity. Prognosis depends on the course of the disease, management and accompanying complications.

Keywords: tuberculous spondylitis, tetraparesis, children

MISCL 18

Acute Lymphoblastic Leukemia in Identical Twin Infants: Report of An Unsual Case

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Objective: Infants with acute lymphoblastic leukemia (ALL) are rare, comprising only 2-5% of all pediatric ALL with an unfavorable prognosis. Currently, the survival rate for the most common form of childhood leukemia is around 90%; it is unknown if this rate extends to leukemia Cases in both twins. Studies on monozygotic twins with concordant leukemia showed that their leukemic cells share identical clonotypic markers indicative of origin in one twin in utero.

Case: Identical twin brothers were born through cesarean delivery at 36 weeks of pregnancy. The first twin was admitted to the hospital with fever at 3.5 months old. Peripheral blood examination revealed 25% of blasts; bone marrow puncture (BMP) showed 33% of lymphoblasts, establishing ALL type L1 diagnosis. Flow cytometry demonstrated CD34+, CD19+, cyCD79a+ with Conclusion blast type lymphoid lineage in accordance with B cells. Screening of the second twin at the age of 6 months revealed 9% of blast cells. He was also diagnosed with ALL type L1 based on BMP result that showed 43.5% of lymphoblast. Flow cytometry demonstrated CD34+, CD19+, cyCD79a dim, cyMPO dim, in line with mixed-phenotype acute leukemia. Both twins received induction phase of chemotherapy in accordance with chemotherapy Indonesian national protocol ALL-HR 2018. Apart from chemotherapy, they also received supportive care such antibiotics, transfusions, and nutritional support; parents were provided with social support.

Conclusion: A Case report of identical twins brothers suffering from ALL. Both of them received chemotherapy and supportive care and went into total remission after the induction phase.

Keywords: Acute lymphoblastic leukemia, Chemotherapy Indonesian national protocol ALL-HR 2018, Identical twins, Infant

MISCL 20

Vitamin B12 Deficiency in Children with Developmental Delay: A Diagnostic Approach and Management

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Background: Vitamin B12 deficiency symptoms are non-specific such as growth failure and delayed development. Coexistent with macrocytic anemia and restricted diet of B12 food source should raise suspicion of the diagnosis. Vitamin B12 supplements lead to a rapid improvement of haematological and neurological symptoms but long-term sequalae persist.

Case: A 2-year-old boy came with chief complaints of weight loss for 4 months before admission. He refused to eat solid food and took only breastmilk and a small amount of formula milk (20-30 mL). He seldom eat animal source protein nor supplements and also her mother. Physical examination found pallor, hypotony, malnourished, and unable to sit. The laboratory results showed macrocytic anemia (Hb 5.1 g/dl, MCV 109.6 fL) and hypersegmented neutrophil. Brain CT scan result also showed mild atrophy in bilateral frontal lobe. Serum vitamin B12 level was low (<125 pg/mL). He was given oral vitamin B12 200 mcg per day, blood transfusion and nutritional rehabilitation. Three months after therapy, the patient showed an improvement in vitamin B12 serum level, his muscle tone improved, he could sit by himself but still showed delayed in language and psychomotor abilities.

Conclusion: Vitamin B12 deficiency is a rare but treatable cause of anemia, neurological disorders and developmental delay in children. Recognition of the symptoms and identification of high risk is important for early diagnosis and appropriate treatment to prevent irreversible neurological damage.

Keywords: vitamin B12 deficiency, children, macrocytic anemia, developmental delay

MISCL 32

The Comparison of Newborn Characteristics Using Non-Invasive and Invasive Respiratory Support Devices at Rumah Sakit Dadi Keluarga Ciamis

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Background: Respiratory distress immediately after birth is common and is typically caused by abnormal respiratory function during transition from fetal to neonatal life. Additional respiratory support is required when newborns are unable to achieve satisfactory gas exchange by themselves. Neonatal respiratory distress may be transient; however, persistent distress requires a rational diagnostic and theurapeutic approach to optimize outcome and minimize morbidity. The respiratory support is classified into two types non-invasive and invasive.

Methodology: This research is an analytic observational study with a cross-sectional study. All data are taken from medical records in the Perinatology Ward of Rumah Sakit Dadi Keluarga Ciamis for the period March 2022-2023. Correlative analysis using the SPSS program.

Results: The total sample of babies that requiring respiratory support was 173 babies who used non-invasive (86.7%) and invasive (13.3%). Babies that require non-invasive respiratory support have a characteristics in gestational age 32,34 (±1.44) weeks, birth weight 2036 (1300;2995) grams, the gender are 87 babies male and 63 female babies, APGAR score 5-10 minute 6.03 (±0.19) and 8.25 (±0.52). Whereas, babies that require invasive respiratory support have characteristics in gestational age 29.60 (±1.63) weeks, birth weight 1370 (725; 1665) grams, the gender are 20 babies male and 3 female babies, APGAR score 5-10 minute 4.57 (±1.24) and 6.61(±1.34).

Conclusion: The smaller the gestational age, birth weight, APGAR score and male sex, the higher the risk of requiring an invasive respiratory support. Babies with the above characteristics must be born in health facilities that have invasive respiratory support.

Keywords: Newborn, respiratory support, invasive, non-invasive

MISCL 34

Kangaroo Mother Care for Extremely Preterm Infant and Very Low Birth Weight In Ende General Hospital East Nusa Tenggara

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Objective: Prematurity and low birth weight are important causes of neonatal and infant mortality and long-term neurodevelopmental disability. Hypothermia in low birth weight babies can increase the risk of death in infants. Kangaroo mother care is a corner stone of preterm infant management that provides them with warmth, breastfeeding, protection against infection, and hospital stay reduction.

Case: A baby boy was born on June 28th, 2022 at 12:35 AM by caesarean delivery with indication G2P1001Ab000 at a gestational age of 26-37 weeks with mother suffering from premature rupture of the membrane >12 hours, oligohydramnion, previous history of caesarean section, fetal distress. He was born with Apgar score 3/5. His birth weight was 700 gram, birth length was 31 cm and head circumference was 25 cm. This patient had respiratory problems, temperature instability, and blood sugar since birth, so that the patient was treated in the NICU for 24 days. The patient was diagnosed as Extremely preterm/ Extremely low birth weight, respiratory distress syndrome, early onset sepsis, apnea of prematurity. After the patient's condition stabilized, on the 28th day the patient started Kangoroo mother care. There was an increase in body weight of more than 50%, improved sucking reflex and stability of blood sugar levels, temperature and other vital signs.

Conclusion: Kangaroo mother care, which initiated as soon as when patient was clinically stable, potentially promoting bonding, better regulation in heart rate, breathing, and temperature, and helping to achieve rapid growth with positive impacts on baby's brain and emotional development.

Keywords: Kangoroo Mother Care, Low Birth Weight, Preterm

MISCL 36

Surfactant Therapy in Meconium Aspiration Syndrome: A Case Report

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Background: Meconium aspiration syndrome (MAS) is one of many causes in respiratory distress of newborn. Data regarding MAS in Indonesia is still very limited, but a study revealed MAS is related to high mortality rate. Latest study revealed surfactant therapy related to better clinical outcomes in MAS Cases. We present a Case of baby with meconium aspiration syndrome given a bolus surfactant therapy.

Case: One day old male baby was referred to our emergency department with respiratory distress, delivered by cito caesarean section due to cephalopelvic disproportion with premature rupture of membranes. Baby didn't cry immediately; bluish skin color and green amniotic fluid was found. Baby was already intubated from referring hospital, and physical examination revealed rales on both lungs with severe work of breath. Chest radiography revealed patchy opacities in right lung hemisphere suggesting MAS. Echocardiography revealed small patent ductus arteriosus, and head ultrasonography revealed mild brain edema. The baby received bolus bovine surfactant therapy in his 16 hours of age, delivered through endotracheal tube. Clinical improvement was observed and supplementary oxygen reduced gradually. Baby can maintain good oxygenation without supplemental oxygen by day 12th and able to breastfeed and drank from bottle. He was discharged with good condition.

Conclusion: Surfactant therapy can be a safe and effective treatment modality in MAS. Further study still needed regarding time, method, and types of surfactants used in MAS management.

Keywords: Meconium Aspiration Syndrome, Surfactant

MISCL 50

Pitfalls in Recognizing Congenital Adrenal Hyperplasia (CAH), a Case Report of Severe Neonatal Dehydration

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Background: Congenital adrenal hyperplasia (CAH) can be suspected in infants born with ambiguous genitalia. In newborns, the most severe presentation is characterized by early adrenal insufficiency with salt wasting and change of external genitalia (clitoral enlargement, fusion, and virilization). Infants with CAH can have poor feeding, weight loss, vomiting, electrolyte imbalance, and dehydration. Dehydration is a serious condition in neonates. It can be caused by vomiting, diarrhea, improper preparation of infant formula, and inadequate breastfeeding. In neonates, severe dehydration may be suspected as a weight loss > 10% of birth weight.

Case: The patient was a 15-day-old female term neonate. Five days before admission, the patient had diarrhea >10 x/day and vomiting 2-3 times per day. On the admission day, the patient became lethargic and dehydrated. The mother had poor hygiene and improper preparation of infant formula. On physical examination, there were signs of severe dehydration: decreased body weight by 16%, sunken fontanelle and eyes, dry oral mucosa, and poor skin turgor. Genital examination shows ambiguous genitalia with clitoromegaly (CI 24) and vaginal hyperpigmentation. Laboratory examination revealed thrombocytosis (1,090,000/mm3) and electrolyte imbalance (hypercalcemia). The patient was diagnosed with dehydration and suspected CAH. After rehydration, the baby was active, no signs of dehydration, normal genital examination, and progesterone level showed normal results. CAH was excluded.

Conclusion: The physical changes that occur in severely dehydrated neonates may lead to misdiagnosis. Careful and thorough physical examination may lead to a better and more accurate diagnosis.

Keyword: neonatal dehydration, congenital adrenal hyperplasia, ambiguous genitalia.

MISCL 70

Consciousness Problem in Encephalitis Varicella with Limited Diagnostic Supporting Facilities to dr. Zainoel Abidin's General Hospital

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Objective : Varicella is a viral infection transmitted by the varicella zoster virus. Varicella attack all age, 90% in children 10 years old. In varicella, various form of skin rash was found. Varicella can develops to central nervous system (CNS) abnormalities, however rarely causes encephalitis. Encephalitis varicella needs specific care for its recovery.

Case : Boy, age 7 years 11 months old admitted to dr. Zainoel Abidin's General Hospital with decreased of consciousness experienced 3 days before admission. History of fever since 8 days before admission. Now the fever had subsided. There is blackened skin rash all over the body. Patient screamed all the time. Other family members also experienced skin rash similarly since last month. From inspection, there were crusts on the face, chest, stomach and both extremities. Lumbar puncture had consisted of mononuclear (MN) cells by majority: 95%, leukocytes value was 4/mm^3, albumin was 0 gr/dl, and glucose was 93 mg/dl. Diagnosis of encephalitis varicella made by clinical diagnostic and then administered acyclovir per 8 hours intravenously. The patient screamed for 3 days then stopped in the fourth day. In the seventh day, the patient consciousness had full recovery. The patient then got discharged after 2 weeks of admission.

Conclusion: Encephalitis varicella is rarely happened. In this Case, There is a need to make a standard diagnostic approach for encephalitis varicella if there is a difficulty so that therapy of encephalitis varicella is not delayed and causes harm to the patient.

Keywords: encephalitis, mononuclear, varicella

MISCL 84

Primary Lymphedema: A Newborn Case in Rural Areas

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Objective: Primary lymphedema is related to hypoplasia or aplasia of the lymphatic system leading to reduction of interstitial fluid absorption, followed by tissue modifications, such as increased cutaneous thickness and fat deposition. Primary lymphedema most commonly involves the lower extremity, initially affecting the foot and progressing proximally, with a positive Stemmer sign. Lymphoscintigraphy is useful to diagnose and confirm primary lymphedema. In this study, we want to show how to establish the diagnosis and therapy in patients with primary lymphedema in rural areas with limited facilities

Case: A female baby was born by caesarean delivery with indication G3P2A0 at a gestational age of 40-41 weeks with mother suffering from elderly primigravida, myoma uteri, and want to be sterile. Apgar score 8/9. His birth weight (BW) was 4100 gram, and birth length (BL) was 50 cm. Based on physical examination, we found dorsum of both feet it looks edema. No pathological findings were detected on Complete blood count, chest radiograph and CT scan. On MSCT shows subcutaneous edema in pelvic region, femur, cruris, and pedis bilateral. No bone or mass abnormalities were seen. The therapy given to the patient is a moisturizer three times a day.

Conclusion: Primary lymphedema is predominately a clinical diagnosis. A detailed history and physical examination alone can accurately identify lymphedema in approximately 90% of patients. Even though we are in a remote area with limited facilities, we can still provide initial therapy to patients with primary lymphedema, one of which is by giving a moisturizer.

Keywords**:** Primary lymphedema, edema

MISCL 15

The Profile and Clinical Picture of Undernourished Children in Dr. Sitanala General Hospital's Pediatric Outpatient Clinic

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Background/objective: Based on 2022 Indonesia Nutritional Status Study, the prevalence of stunting and wasting were 21,6% and 7,7% respectively, whilst Banten contributed 20% and 7,9%. Overcoming stunting in Indonesia remains a challenge, hence nation's priority health program.
The study aims to present the characteristics of undernourished children coming to pediatric outpatient clinic of Dr. Sitanala General Hospital between the period of January to July 2023 and evaluate the effectiveness of interventions based on nutritional status improvement.

Methodology: A descriptive observational study based on patient medical records and follow-up via media communication between the period of January to July 2023 was conducted. The observed variables include age, gender, nutritional status, comorbidity, level of nutritional improvement, and oral nutritional supplementation. Diagnosis is established based on medical history, physical examination, and anthropometric assessment. Intervention was conducted based on national guideline of pediatric nutrition care.

Results: We managed 67 undernourished children in the outpatient clinic with 55% male and 44% female. The average age of the children was 2-5 years old (43.28%). Before intervention, there were 35,82% wasted, 25,3% severely wasted, and 22,39% weight faltering children. Among undernourished children, 53,73% stunted. Fourty-two percent had complete immunization up to 9 months of age, and 44% received exclusive breastfeeding. Following intervention, 74,63% had improvement in nutritional status and 8,96% loss to follow-up. Eleven patients with underlying comorbidity showed lack of improvement.

Conclusion: Intervention conducted in Tertiary Health Centre showed prominent nutritional status improvement.

Keywords : stunting, wasted, nutritional intervention, profile

MISCL 24

Pediatric Chronic Kidney Disease in District Hospital: A Case Report

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Objective: The aim this Case report is describe diagnostic and management Chronic Kidney Disease (CKD) with limited facilities in the hospital.

Case: A 6 years old girl was brought to a hospital due to swelling at all bodies in the last two days. One day before, her urine output was decreasing and having shortness of breath along with cough and fever. It was known that she had nephrotic syndrome a year before.
While being fully conscious, her physical examination showed 101/68 mmHg (blood pressure), 38 breaths/minute (respiratory rate), 36,8°C (temperature) and 94-97% (oxygen saturation). She had pale conjunctiva and bilateral periorbital edema, crackles sound in the both of lung fields and decreased vesicular sound in the right lung, extremity edema.
Laboratory results showed that the patient had Hemoglobin 5,6 g/dl, leucocyte 18.730/ul, hematocrit 18%, thrombocyte 365.000/ul, blood urea nitrogen (BUN) of 104 mg/dl, serum creatinine 4,5 mg/dl, albumin 1,4, metabolic acidosis with bicarbonate of 9,5 mmol/L, urinalysis with +2 protein, +1 leukocyte, and +2 blood. Also, the thorax photo showed pleural effusion in the right lung.
In ICU, she received 25% albumin transfusion, diuretic agent, broad spectrum antibiotic, sodium bicarbonate infusion for correction the metabolic acidosis, blood transfusion and hemodialysis with CVC access. After conducting two sessions of hemodialysis, her condition was stable. Patient had thoracocentesis with 580 ml effusion fluids.

Conclusion: Nephrotic syndrome is the leading cause of CKD in our patient. CKD in children is potentially fatal diseases with poor outcomes if not diagnosed and treated early.

Keyword: Chronic Kidney Disease, Nephrotic Syndrome

MISCL 35

Undernutrition and Anemia Among 1 to 59-Month Patients at Sumber Waras Hospital Jakarta: A Cross-Sectional Study

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Background: The coexistence of undernutrition and anemia makes the treatment and prognosis unfavorable. This study aimed to show the prevalence and correlation of undernutrition and anemia, including their severity and types.

Methodology: A cross-sectional study using 259 data from medical records among 1 to 59-month-old patients in January until June 2023 in Sumber Waras Hospital Jakarta. We exclude data that is incomplete and patients with obesity, overweight, tall, very tall, hormone disease, thalassemia, or anemia that underwent treatment. Undernutrition is classified by the WHO z-score classification. Anemia is later classified based on severity (mild, moderate, or severe) and types (iron deficiency and chronic infection) with Hb and MCV values. All the data was analyzed with SPSS version 25.

Results: The biggest prevalence of undernutrition is underweight (14.7%), and the prevalence of anemia generally is 46.7%, followed by mild anemia (27.2%) and iron-deficiency anemia (25.1%). Only weight for age has a significant correlation with anemia (p-value <0.05). There is no correlation between undernutrition and the severity or type of anemia. Patients were dominated by age of 12–24 months (30.5%), male (60.2%), and came from a good socioeconomic class (53.3%). Pneumonia is the most common infection (59.5%), followed by gastroenteritis (47.1%).

Conclusion: The high prevalence of undernutrition, anemia, and infection disease, even in the capital city and good socioeconomic class, is still a burden for Indonesia. Holistic, comprehensive, and prompt treatment is necessary to improve Indonesian pediatric nutritional status for a better future.

Keywords: *undernutrition, anemia, pediatric, Indonesia*

MISCL 49

Sturge Weber Syndrome and Its Follow-Up in Remote Area: A Rare Case Report

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Objective: Sturge Weber Syndrome (SWS) is a rare neurocutaneous disorder that is characterized by the presence of angiomas on the face, choroid, and leptomeninges. Seizure is usually the first neurological manifestation. Monitoring and comprehensive management can be challenging for some patients in remote areas.

Case: A 4-year-old girl with developmental delay presented to our hospital with a single episode of generalized tonic-clonic seizure two days before admission. There was no history of fever, headache, and vomiting. The patient experienced her initial seizure at six months old. She was diagnosed with epilepsy and valproic acid was prescribed. At the age of three years old, she discontinued the medicine for 8 months. Therefore, she had multiple seizures. She was referred to Tajuddin Chalid Hospital. Head CT scan revealed bilateral calcifications in the frontoparietooccipital gyrus lobes with cerebral atrophy. EEG showed there were epileptiform waves at the right centro-parietal area. She also had left-eye glaucoma. She was diagnosed with SWS and was given valproic acid. Afterward, she conducted a monthly check-up at our hospital. Physical examination showed unilateral port-wine stain nevus and soft tissue swelling at the left side of the face, as well as spastic hemiparesis. The dose of valproic acid was adjusted. Because of the geographical limitation, he only underwent home-based passive rehabilitation exercises. Eight months follow-up of the patient showed that she had controlled seizures.

Conclusion: SWS is a rare sporadic syndrome and lacks a definitive treatment. Despite all limitations, multidisciplinary management and long-term monitoring are important.

Keywords: children, epilepsy, remote, Sturge Weber syndrome

MISCL 51

Fraser Syndrome: A Very Rare Phenomena Overcome on a New Born

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Background: Fraser syndrome is characterized by cryptophthalmos, cutaneous syndactyly, malformations of the larynx and genitourinary tract, craniofacial dysmorphism, orofacial clefting, mental retardation, and musculoskeletal anomalies. It may be caused by mutations in two genes FRAS1 and FREM2. The incidence of Fraser syndrome is below 0.043 per 10,000 live born infants and 1.1 in 10,000 stillbirths, making it a very rare syndrome.

Case: A neonate presented at the emergency department with a complaint of generalized cyanosis that emerged 11 hours after birth. The baby was born not crying and exhibited no muscle tone, with a history of two apnea episodes. Cardiopulmonary resuscitation and positive pressure ventilation were performed. Vital signs assessment revealed a Downe score of 7, heart rate of 150 beats per minute, respiratory rate of 70 breaths per minute, and SpO2 saturation of 85% with the assistance of Continuous Positive Airway Pressure (CPAP) using PEEP 7 and FiO2 100%. Physical examination revealed dysmorphic facial features, absence of bilateral orbits, subcostal and intercostal retractions, syndactyly of both upper and lower extremities, and ambiguous genitalia. Ultrasonography examination identified bilateral cryptophthalmos with right anophthalmia and agenesis of the right kidney. Chest X-ray findings were suggestive of Pneumonia dextra. The patient was diagnosed with Fraser Syndrome.

Conclusion: Fraser syndrome can be fatal shortly after birth. This condition is diagnosed based on clinical and radiological finding.

Keyword: Fraser Syndrome, Cryptophthalmos, Renal Agenesis, Rare Disease

MISCL 54

Congenital Syphilis: A Case Series

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Background: Congenital syphilis is an infectious disease caused by *Treponema pallidum* transmitted from mother to fetus through the placenta. The diseases have a wide spectrum of clinical manifestations, from asymptomatic to severe Cases that are clinically visible at birth. The prevalence of pregnant women with syphilis infection was 1.7% in Indonesia with the risk of mother-to-child transmission ranging from 69-80%. The triple elimination of mother-to-child transmission including syphilis infection has been initiated by WHO as one of the public health priorities. Although antenatal screening is easy to perform and cost-effective, congenital syphilis remains an important cause of disability and mortality in infants, especially in developing countries.

Case: We reviewed data from perinatal ward registers in Hasan Sadikin General Hospital Bandung. Of the 13 reported Cases of congenital syphilis from August 2022 – July 2023, we reported 7 symptomatic Cases. More than 50% of Cases were referral patients with no antenatal screening for the mother. Age at diagnosis ranged from 1-33 days. Among those with reported findings, 5 patients had specific skin lesions, 2 patients had abnormal long-bone radiographs consistent with congenital syphilis**,** and 2 patients had cholestatic jaundice manifestation. All the patients were treated using procaine penicillin. Supportive therapies were also given according to other clinical conditions. Most patients showed a good response to antibiotic therapy, but 1 patient died of sepsis.

Conclusion: Antenatal screening and adequate treatments can result in good outcomes for congenital syphilis.

Keywords: congenital syphilis, antenatal screening, procaine penicillin

MISCL 59

The Challenge of Managing The Child with Severe Acute Malnutrition, Tuberculosis and Acute Diarrhea in Primary Healthcare : A Case Report

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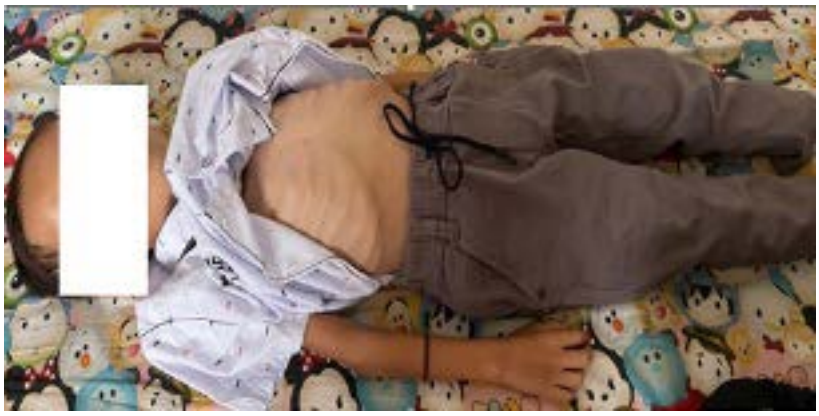
Background: Malnutrition is a serious child health problem and there are still quite a lot of Cases, especially in Cianjur, West Java. Malnutrition, tuberculosis (TB), and diarrhea are important causes of morbidity and mortality in children.

Case : A 6 year old boy came to the polyclinic in Pacet Primary Health Care with cough, fever, and diarrhea since three days ago. Immunization history was incomplete. In anthropometric measurements, the body weight was 12,5 kg and the height was 108 cm (CDC Growth Chart <5th centile). Weight at birth is 3500 grams. On physical examination, we found prominent ribs, loose skin, and rales on lung examination. We provide counseling to parents about this child and we recommend referring to Cimacan General Hospital for further management. The child was hospitalized for 6 days. The radiology and laboratory results show tuberculosis. After discharge from hospital, a team from our primary health care consisting of doctor, nutritionist, and midwife followed up on the child's progress. The child's weight increases slowly towards normal within 3 months. Patients always control routine for TB treatment with fixed-dose FDC for 6 months.



Picture 1. The child came to the primary health care for the first time.

Picture 2. The child was hospitalized in Cimacan General Hospital.

Picture 3. The child was improved clinically after the treatment.

Conclusion : It is important to screening, diagnose, and early treatment initiation of nutrional deficiencies in children. Malnutrition increases the risk of developing TB including diarrhea and is also a consequence of them. Collaboration between hospital and primary health care is needed in the successful handling of children with severe malnutrition.

Keywords : malnutrition, tuberculosis, diarrhea

MISCL 74

Spinal Muscular Atrophy Type 1 With Respiratory Distress: A Case Series

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Background: Spinal muscular atrophy (SMA) is a rare disease with incidence around 1 in 10,000 live birth characterized by degeneration of the anterior horn cells in the spinal cord and motor nuclei in the lower brainstem, which results in progressive muscle weakness, atrophy, paralysis and respiratory problem. SMA have a 5 type, which is type 1 are the most common and severe type that has symptoms onset present early in life, generally within the first 6 month of life that occurs progress rapidly with poor outcome, which leads to respiratory failure and prolonged ventilator-dependent. Majority of infants die before two years of age from respiratory failure.

Case: A total of 2 infant diagnosed as SMA type 1 at 6-months-old, and 2-months-old respectively which came with respiratory distress that progress rapidly to respiratory failure. The genetic study revealed deletion in SMN1 gene in all patients. We intubated all the patients and all the patients had prolonged ventilator-dependent for several months before they passed away. The respiratory problem along with the infection causing septic shock was the main caused of patient death.

Conclusion: Spinal muscular atrophy is one of the deadly rare genetic disease occurs in children. SMA type 1 had a high burden in length of stay in hospitalization, prolonged ventilator-dependent and hospital acquired infection leading to worse prognosis as showed in our studies.

Keywords: Pediatric, Prolonged dependent ventilator, Spinal muscular atrophy

MISCL 83

The Management of A-19-Month-Old Boy Drowning in Rumah Sakit Dadi Keluarga Ciamis: A Case Report

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Background: Drowning is the process of experiencing respiratory impairment from submersion/ immersion in liquid media. According to WHO in 2019, an estimated 236.000 deaths are caused by accidental drowning. Drowning was the second leading cause, and those aged 1-3 years have the highest rate of drowning.

Case: A-19 month-old boy was admitted to the Emergency Room (ER) Rumah Sakit Dadi Keluarga Ciamis on July 8th 2023 at 1.00 p.m. Five minutes before admission he was found drowning in a fish pond after slipping from a slide. The duration of the drowning was about 5 minutes. He was taken to hospital which took about 5 minutes from the pond. His admission status indicated that he was deterioration of consciousness, cyanotic, apneic and pulseless. The first attempt was performed by cardiopulmonary resuscitation included suction to safe airway management, chest compression, oxygenated, and intravenous line insertion. He cried and looked apathetic. The pulse began 160 beats per minute, respiratory rate was 32 times per minutes, body temperature was 36,0 C and oxygen saturation was 70%. He received non-rebreathing mask treatment of 10 liters per minutes and was wrapped in a blanket. After re-evaluating the primary survey, a physical and laboratory examination was conducted. He was hospitalized for 3 days and was discharged with improving condition.

Conclusion: Immediate and prompt treatments in managing the drowning Cases are essential. Our Case showing the duration of drowning, attempt for resuscitation, pharmacologyc for underlying conditions and regular follow up might give the good recovery and prognosis the patient.

Keyword : Drowning, Cardiopulmonary Resuscitation, Pneumonia

MISCL 91

A Case Report : Hypertensive Encephalopathy in 13-year-old- Boy Followed by Acute Kidney Injury

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Objective : Pediatric hypertension defined as systolic BP and/or diastolic BP greater than or equal to the 95th percentile for sex, age, and height on 3 or more occasions, occurs in 1% to 2% of children. Hypertensive encephalopathy is defined as acute brain dysfunction, severe headache, unconsciousness, seizure, and retinal hemorrhage, also be a complication of kidney disease.

Case : An 13-year-old boy to emergency room after seizure 2 times at home, with unconsciousness between seizure. Patient and parents had no history of any disease before. Physical examination found patient respond to pain, no neurologic deficit, blood pressure 160/100, heart rate 108 bpm, respiratory rate 22 times per minute, oxygen saturation 79% in room air and by nasal prong 3 liters became 98%. By the time we waited for blood test result, patient had seizure 2 times and unconscious afterhand so Diazepam 1 mg and Nifedipin 3 mg was delivered. Blood test result white blood count 21.900, ureum 72 and creatinin level 1.4. Brain CT-Scan and chest xray within normal limits. Patient were admitted to High Care Unit and in second day transferred to type B hospital for further evaluation.

Conclusion :. Hypertension in children usually related to secondary hypertension and could lead to end-organ damage. Hypertensive encephalopathy can manifest seizures, intracranial hemorrhage and had renal disease; hence, evaluation of hypertension in children include the use of renal ultrasonography, echocardiogram, and laboratory findings. As seizure is an advanced manifestation of malignant hypertension could mean that the renal origin had more severe than nonrenal origin.

Keywords : Hypertensive Encephalopaty, Acute Kidney Injury.

MISCL-2-03

Association Between Newborn's Weight and Incidence of Hyperbilirubinemia

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Background : Low birth weight (LBW) and very low birth weight (VLBW) is one of the most cause in neonatal death. In 2020, 19.8 million newborns, an estimated 14.7 per cent of all babies born globally that year, suffered from low birthweight. About 80% of LBW and VLBW newborns develop some degree of jaundice. Jaundice is more prevalent, severe, and protracted in low-birth-weight babies. Hyperbilirubinemia in preterm infants is more prevalent, more severe, and its course more protracted than in term neonates.

Methods : The quantitative research with retrospective cross-sectional design was conducted using data from medical records in neonatal intensive care unit (NICU) RSUD Kota Tangerang in April 2022 - March 2023. A total of 61 infants were selected with a purposive sampling. Data were analyzed in SPSS-26 software using *Chi-Square test* to examine the association between newborn's weight and incidence of hyperbilirubinemia.

Result : In total, 61 infants were studied, 77% of samples were preterm, low birth weight (47,5%), very low birth weight (31,1%), and the prevalence of neonates with hyperbilirubinemia were 78,7%. Infant's weight was associated with statistically significant to number of incidences of hyperbilirubinemia ($p = 0.000$, $p < 0,05$).

Conclusion : There is an association between newborn's weight and incidence of hyperbilirubinemia.

Keywords: Newborn's weight, Hyperbilirubinemia

MISCL-2-05

Socioeconomic Factors and Nutritional Status among Adolescent Girls with Anemia in Islamic Boarding School: A Case Control Study

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Background: Anemia among adolescent is a global health problem. Adolescent girls have high risk of anemia. Anemia can reduce concentration and lead to poor academic performance in school. Poverty and knowledge contribute to inadequate nutritional intake, which raises the risk of anemia. This study aimed to assess socioeconomic factors and nutritional status among adolescent girls with anemia in Islamic Boarding School.

Methods: This Case control study was conducted on July to August 2023 at Islamic Boarding School in Sragen. A total of 90 subjects were calculated using hypothesis test for an odds ratio and selected by random sampling technique. Subjects who had chronic disease and had not experienced menstruation were excluded. The Case group consisted of 45 subjects with anemia (Hb <12 g/dl), and the same number of subjects without anemia in control group (Hb >12g/dl). Data were collected using self-administered questionnaires, hemocue tool, and anthropometric measurement. Nutritional status was classified according to WHO 2007 Growth reference BMI/Age ZScore. Chi-square and Fisher exact test were used for data analysis.

Result: There were no associations between anemia and factors such as father's and mother's occupation (p=0.101 and p=0.822), father's and mother's income (p=0.788 and p=0.527), ethnicity (p=0.334), and nutritional status (p=0.387).

Conclusion: Socioeconomic factors and nutritional status have no significant association with anemia among adolescent girls in Islamic Boarding School.

Keywords: Socioeconomic factor, Nutritional status, Anemia, Adolescent, Boarding school

Table 1. Distribution of Subjects (Anemic and Non-Anemic) with Their Characteristics

Characteristics	Anemic (n = 45)		Non Anemic (n = 45)	
	n	%	n	%
Age, years				
13	5	11.1	9	15.6
14	24	53.3	24	53.3
15	16	35.6	12	31.1
Mean (SD)	14.24 (0.64)		14.07 (0.68)	
Median (range)	14 (13 – 15)		14 (13 – 15)	
Age at menarche, years				
9	1	2.2	1	2.2
10	5	11.1	6	13.3
11	12	26.7	16	35.6
12	21	46.7	12	26.7
13	5	11.1	6	13.3
14	1	2.2	3	6.7
15	0	0.0	1	2.2
Mean (SD)	11.60 (0.98)		11.64 (1.26)	
Median (range)	12 (9 - 14)		11 (9 – 15)	
Ethnicity				
Javanese	38	84.4	41	91.1
Non Javanese	7	15.6	4	8.9
Father's Occupation				
Civil servant	15	33.3	20	44.4
Self employed	11	24.4	11	24.4
Private employed	17	37.8	13	28.9
Unemployed	2	4.4	1	2.2
Father's Income				
No income	2	4.4	1	2.2
Low	6	13.3	8	17.8
Middle	30	66.7	28	62.2
High	7	15.6	8	17.8
Mother's Occupation				
Civil servant	12	26.7	15	33.3
Self employed	7	15.6	9	20.0
Private employed	11	24.4	7	15.6
Unemployed	9	20.0	10	22.2
Mother's Income				
No income	9	20.0	10	22.2
Low	14	31.1	10	22.2
Middle	18	40.0	22	48.9
High	4	8.9	3	6.7
Menstrual Cycle				
Normal	34	75.6	36	80.0
Polymenorrhea	1	2.2	1	2.2
Oligomenorrhea	7	15.6	7	15.6
Amenorrhea	3	6.7	1	2.2
Menstrual Length				
Normal	29	64.4	21	46.7
Prolonged	16	35.6	24	53.3
BMI, kg/m^2				
Mean (SD)	22.23 (3.57)		21.18 (3.92)	
Median (range)	22.63 (15.81 – 32.02)		20.54 (15.11 – 30.25)	
BMI for age, z-score				
Mean (SD)	0.66 (1.06)		0.34 (1.18)	
Median (range)	0.91 (-1.76 – 2.74)		0.29 (-1.97 – 2.47)	
Nutritional Status				
Normal	25	55.6	30	66.7
Overweight	17	37.8	10	22.2
Obesity	3	6.7	5	11.1

Table 2. Bivariate Analysis of Socioeconomic Factors and Nutritional Status with Anemia

Characteristics	Anemic (n = 45)		Non Anemic (n = 45)		p-value	OR	CI 95%	
	n	%	n	%			Lower	Upper
Ethnicity								
Javanese	38	84.4	41	91.1	0.334[a]	0.530	0.144	1.954
Non Javanese	7	15.6	4	8.9				
Father's Occupation								
Working	40	88.9	44	97.8	0.101[a]	0.182	0.020	1.623
Not Working	5	11.1	1	2.2				
Father's Income								
No income - Low	8	17.8	9	20.0	0.788[b]	0.865	0.300	2.489
Middle - High	37	82.2	36	80.0				
Mother's Occupation								
Working	30	66.7	31	68.9	0.822[a]	0.903	0.373	2.188
Not Working	15	33.3	14	31.1				
Mother's Income								
No income – Low	23	51.1	20	44.4	0.527[a]	1.307	0.570	2.994
Middle – High	22	48.9	25	55.6				
Nutritional Status								
Normal	25	55.6	30	66.7	0.387[a]	0.625	0.266	1.469
Overweight - Obese	20	44.4	15	33.3				

[a]chi-square test
[b]fisher exact test

MISCL 08

Challenges in Management of Neonatal Hypertension in Preterm Infant : A Case report

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Background : Neonatal hypertension is more frequent in very prematurely born, sick infants. Establishing standard blood pressure (BP) values for neonates, particularly preterm ones, poses a challenge. Low gestational age and birth weight, bronchopulmonary dysplasia, cardiac disease, and acute kidney injury can all be considered risk factors for hypertension. Once neonatal hypertension has been identified, an examination is carried out to determine the underlying cause of the condition, which potentially be corrected.

Case : A baby girl was born to P_2A_0 mother, at 33 weeks of pregnancy, delivered a 965-gram baby, scoring 5/7 on APGAR scale via C-section due to anticipated eclampsia. At 1-month chronological age, the baby with BPD and neonatal sepsis is still under intensive care, requiring continued ventilator support. Suspected neonatal hypertension was identified on the baby's second day, with a BP around 110/85. From physical observation, the baby was lethargic, thermolabile, and having hypertension with brown aspirate. Laboratory results indicated blood culture *Stenotrophomonas maltophilia* with atelectasis and pneumonia from X-ray. Renal ultrasound was normal with a resistive index (RI) of 0.7. Echocardiogram revealed a decreased PDA after receiving paracetamol for 7 days as well as the treatment with antidiuretics, antibiotics, and mechanical ventilation for the baby.

Conclusion : The best strategy for neonatal hypertension is still undetermined, depending on the hypertension's severity, root cause, and other health factors affecting the patient. The viable treatment includes detecting and rectifying any treatable hypertension causes, and if necessary, using medication to lower BP.

Keywords : Neonatal Hypertension, Prematurity, Management

MISCL 09

Moderate Envenomation of Suspected Sumatran Cobra Bite in Pediatric: A Case Report

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Background: Snakebite envenoming is a life-threatening emergency. According to the WHO, 4.5-5.4 million people worldwide get bitten by snakes annually with 81000-138000 deaths including children. This presentation Case aims to raise awareness of venomous snakebites in pediatrics and the importance of immediate management.

Case: An eleven-year-old boy was referred to the RSCM emergency room after getting bitten by a black triangle-shaped head snake suspected of Sumatran Cobra on his right middle finger for 11 hours with fever and vomitus. Two fangs mark is seen on the right middle finger with pain and swelling accompanied by a red-bluish color from his right middle finger spread to the right wrist. The patient washed his wound under clean running water, and bandage the wound on the proximal of the right middle finger. He was alert with normal physical examination. Diuresis was normal without hematuria. Before referral, he was given 1 vial of polyvalent snake antivenom 4 hours after the incident. Laboratory findings showed leukocytosis, neutrophilia, thrombocytosis, and high D-dimer. He was immobilized and was given 2 more vials of polyvalent snake antivenom; antibiotic, anti-tetanus, and pain medication. He was monitored for anticipating adverse effects and complications. He was discharged after six days without worsening conditions and laboratory findings.

Conclusion: This patient had moderate envenomation caused by a suspected Sumatran Cobra. The administration of snake antivenom as soon as possible can reduce patient morbidity and mortality. Adequate monitoring, supportive therapies, and providing specific snake antivenom with advanced venom tests are needed for managing snakebites.

Keywords: envenomation, snakebite, Sumatran Cobra, pediatric

MISCL 13

Case Series of Tuberculous Meningitis in Bangka Belitung : Clinical Application of Marais Diagnostic Scoring Index

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Background: Tuberculous meningitis (TBM) is the most lethal form of tuberculosis (TB). Diagnosing TBM is more challenging than other forms of meningitis, especially in remote area. Early clinical symptoms are often non-specific, causing delayed treatment of TBM.

Case: We report two Cases of TBM in Bangka Belitung. Both are one-year-old boy, weight 9 kgs and 10.4 kgs each. They came with altered consciousness, convulsion, and high grade fever. The first Case, contact to TB patient was denied. CSF examination showed clear, colorless appearance with lymphocytic predominance. CSF culture for Acid Fast Bacilli (AFB) and geneXpert were negative. The patient was treated with antibiotics and steroid but there was no clinical improvement. On eighth day of admission, gastric lavage was performed for geneXpert examination and antituberculosis drug (ATD) was given due to Marais index indicated possible for TBM. GeneXpert for gastric lavage gave positive result. On day 18, the patient showed significant regression of disease and was discharged on day 24.
Second Case, brain CT scan showed cerebral edema. CSF was colorless with lymphocytic predominance and high protein level. CSF culture for AFB and geneXpert were negative. This patient was also treated with antibiotics but no significant improvement was shown. On day 10, we started to administer ATD due to Marais index indicated probable TBM. This gave satisfying result. Patient was discharged on day 25.

Conclusion: In this Case series, we used Marais' diagnostic scoring index in order to diagnose TBM. Both score were 9 and 10 which were probable for TBM. Thus, TBM must be suspected in every children of all ages with non-specific symptoms of central nervous system involvement.

Keywords: *Meningitis, tuberculosis, Marais index*

MISCL 14

Paraparesis Inferior as a Manifestation of Pediatric Tuberculous Meningitis: Serial Case Reports

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Background: Tuberculous Meningitis is an inflammatory disease of brain membranes due to hematogenous spread of *Mycobacterium Tuberculosis*. It is the most severe form of *M. Tuberculosis* infection, causing high mortality and morbidity. Patients with Tuberculous Meningitis have symptoms and signs, most commonly seizures and decreased consciousness, but some present with cranial nerve paralysis, hemiparesis or paraparesis.

Case: Ten children came to Pediatric clinic RSUD Dr. Slamet Garut around 2021–2023 and were admitted with unable to walk, without accompanying loss of consciousness and seizures. Some of them also complained of intermittent headache, as well as a history of fever, cough, and weight loss. There were a history of TB contact at home. On physical examination, they were compos mentis, 1 patient was underweight (BMI 12.4, Percentile 0.01), 8 normal nutritional status and 1 patient was stunting. There are no orthopedic abnormalities in the lower extremities. They showed an increase in UMN lesions, muscle atrophy and decreased lower limb motor strength. Laboratory results of ESR were elevated, lumbar puncture results supported the presence of tuberculosis infection. Mantoux test positive results. Their Chest X-ray showed pulmonary tuberculosis and CT scan of the head showed basal meningeal enhancement. They were treated with OAT and physiotherapy. In 1 month, they showed improvement with reduced complaints of paresis and there are no other neurological complications.

Conclusion: These Cases showed that Tuberculous Meningitis can be found with symptoms of inferior paraparesis without seizures or loss of consciousness. Proper management can get good results.

Keywords**:** Paraparesis Inferior, Pediatric, Tuberculous Meningitis

MISCL 16

Aminophylline for Renal Protection in Neonatal Hypoxic Ischemic Encephalopathy in Duren Sawit Hospital: A Case Report

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Background: One of the most common causes of infant disability and mortality worldwide is Hypoxic-Ischemic Encephalopathy (HIE), which has asphyxia as its etiology during intrauterine or postnatal life. Neonates with HIE frequently develop acute kidney injury (AKI). Almost all newborns had their first micturition within 24 hours of birth. Aminophylline has been shown to reduce renal dysfunction in neonates after perinatal asphyxia.

Case: A 14-year-old mother came to emergency room (ER) with premature contraction at 32-33 weeks of pregnancy and had a spontaneous delivery of a baby girl at the ER. When the infant was born, she was not crying, so we intubated and performed resuscitation at the ER, with birth weight 2463 gr, APGAR Score 4/6, and Thompson Score 10, then delivered to the NICU. The baby's urine output was still low after 24 hours of NICU treatment and her diuresis was less than 0,5cc/kgbb/hour. Aminophylline was administered as maintenance therapy with a loading dose of 5mg/kgbb, followed by maintenance dose of 1.8mg/kgbb every 6 hours. After 3 days, the patient's diuresis became better, and finally, after 8 days of therapy, the patient was finally discharged.

Conclusion: AKI is frequently developed in newborns with HIE. The use of aminophylline in newborns with HIE is not well enough understood due to a lack of research. However, this patient demonstrated that aminophylline could assist in treating AKI in HIE neonates.

Keywords: Aminophylline, Acute Kidney Injury, Neonatal Hypoxic Ischemic Encephalopathy

MISCL 37

Clinical Findings and Airway Management in a Newborn with Pierre Robin Sequence : A Case Report

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Objective : Pierre Robin sequence (PRS) is a congenital birth defect characterized by micrognathia, glossoptosis, and airway obstruction as the result of the palatal malformation. We report a rare disease with clinical findings and the approach of airway management in a newborn diagnosed with PRS.

Case : A newborn from normal vaginal delivery at 39 weeks of gestation, weighing 3340 g with Apgar score of 5 and 8 at 1 and 5 min was referred to the neonatal intensive care unit. After resuscitation, we observed micrognathia, high palate, glossoptosis and intercostal retraction from physical examination. Our approach to this Case begins with prone position and insertion of the oropharyngeal tube to keep the airway open. After re-evaluate, the Downes' score was 5 and the patient used C-PAP. The oxygen saturation was well-maintained with PEEP 7 and FiO2 35%. Right atrium dilatation and atrial septal defect were seen in echocardiography. No family history was reported and she was the first birth order with no siblings. The third day, the patient Downes' score was 7 and needed tracheal intubation to rescue the airway. After successfully intubated and stabilized, the patient were referred to the tertiary level hospital for an advanced medical treatments.

Conclusion : The PRS airway treatment plan based on the estimated duration of respiratory support, failure of nonoperative management, and the clinical judgement. Tracheostomy remains the gold standard for definitive airway protection and also the only option for PRS infants with an associated subglottic obstruction and tracheomalacia.

Keywords : Glossoptosis, Micrognathia, Palatal Malformation, Pierre Robin.

MISCL 52

Neurological Factors that Effect Neonates' Sucking Reflex: A Pilot Study

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Background: The neurological examination is a cornerstone in the assessment of a neonate's neurological function. Practicioners who care for neonates require not only the ability to perform an organized and through neonatal neurological examination but also the knowledge to understand and recognize normal and abnormal findings. One of the most crucial reactions that baby have for determining when they are ready to begin drinking is the sucking reflex. Neonatal's capacity for drinking plays a critical function in providing the nutrition required for growth and development. Full-term newborns have adequate sucking and swallowing skills at the time of birth. Meanwhile, brain immaturity in premature infants cause delays in neurological development.

Methodology: The observational cross-sectional study was conducted on July 2023 from neonatal unit in Dr. Cipto Mangunkusumo National General Hospital and Pasar Rebo General Hospital Jakarta. 33 Inborn babies of moderate late preterm and full-term that included in the inclusion criteria: (1) the neonate is in stable condition were enrolled in this study. The researcher conducted neurological examination such as head circumference, fontanels, palmar grasp, plantar grasp, rooting reflex, moro reflex and sucking reflex.

Result: Out of 33 neonates underwent neurological examination. Multivariate analysis with logistic regression were performed. Multivariate analysis found that head circumference, fontanels, rooting reflex were influenced sucking reflex in neonates (p value <0.05).

Conclusion: We found that a neonates with poor sucking ability may have possibility abnormalities on neurological examinations.

Keywords: sucking reflex, neurological factors, nenonates, moderate late preterm, full-term

MISCL 61

Massive Epistaxis in Coexisting Acute Nephritic Syndrome and Rheumatic Heart Disease

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Background: One of the most common causes of infection in children is group A beta-hemolytic Streptococcus which can cause pharyngitis and pyoderma, which is often underestimated by parents. These bacterial infections can progress to acute nephritic syndrome and rheumatic heart disease (RHD).
Case: A 9-years-old boy came to ER with complaints of epistaxis and hematemesis since 2 hours before admission. Complaints were accompanied by dry cough, fever, with scabs and sores on all four limbs that had been felt since 7 days before admission. The patient's mother said the urine was appeared reddish with foam, with the puffy face since 3 days before admission. The patient presented with hypertension, anemic conjunctiva, edema facialis, epistaxis, mitral-aortic systolic murmur, and hyperpigmented macules with papules and squama. Supporting examination showed moderate anemia, proteinuria, hematuria, hypoalbuminemia, elevated ureum-creatinine serum, normal coagulation profile, and ASTO 400 IU/mL. On CXR, cardiomegaly was found with signs of pulmonary edema and minimal left pleural effusion. Echocardiography concluded RHD with severe MR and mild AR. The patient was diagnosed as acute nephritic syndrome with acute kidney injury, massive epistaxis, RHD and pyoderma, and treated for 10 days.
Conclusion: It is rare to find these two complications coexisting in the same disease course. Further research is needed for the cause of epistaxis in acute nephritic syndrome and RHD.

Keywords: acute nephritic syndrome, epistaxis, rheumatic heart disease

MISCL 63

Duchenne Muscular Dystrophy: Case series of comprehensive management

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Background: Dystrophinopathies is a spectrum of progressive muscular dystrophies caused by the absence or decreased function of dystrophin proteins. Duchenne muscular dystrophy (DMD) and Becker Muscular Dystrophy (BMD) are among the severe muscular dystrophic disorders caused by dystrophic gene mutations. Dystrophin in the muscle causes the muscle to easily undergo destruction, resulting in a progressive decline in muscle function and mass. Early symptoms are waddling gait and frequent falls. Clinical assessment, early detection, and appropriate comprehensive management of DMD are paramount for optimal outcomes.

Case Series: We present a Case series of 3 DMD patients who were diagnosed at Dr. Cipto Mangunkusumo General Hospital (CMH), Jakarta during the period of year 2023. All patients presented with initial complaints of progressive weakness of lower extremities and difficulty to stand up from sitting position. Physical examination revealed pseudohypertrophy of calf, winged scapula, positive Gower's sign, and waddling gait in all three Cases. Supporting examination showed an increase of alanine transaminase and aspartate transaminase 5.6 times and 6.1 times the upper limit of normal, respectively. Definitive diagnosis of all patient was made based on immunohistochemistry staining which revealed an absent of dystrophin protein around muscle membrane.

Conclusion: Duchenne muscular dystrophy (DMD) is mainly a clinical diagnosis. The patients were treated with oral prednisone with the dose of 0,75 mg/Kg per day, divided in three doses. They were also advised to seek physiotherapy regularly, with regular follow-ups of cardiac and respiratory signs and symptoms. The life expectancy of these patients are generally up to 20 years old due to the disease's progressivity and its incurable nature, and during their life they might need assistance to perform daily activities.

Keyword: DMD, Dystrophinopathies, Inherited disorder

MISCL 81

Prevalence and Associated Factors of Perinatal Asphyxia in Type C Hospital, Ciamis, West Java in 2022 – 2023

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Background: Perinatal asphyxia is a clinical condition of the inability of the newborn to initiate and sustain enough respiration after delivery. The factors that cause neonatal asphyxia are antepartum factors, intrapartum factors and fetal factors. This study was aimed to assess the prevalence and associated factors with identifying determinants of perinatal asphyxia among newborns at Dadi Keluarga Hospital in 2022-2023.

Methods: A cross-sectional study among 995 neonates were recorded, there were 156 (15,60%) infants with perinatal asphyxia, only 61 neonates met the inclusion and exclusion criteria has been conducted.

Results: There were 15,60% infants diagnosed with perinatal asphyxia in Neonatology Ward at Dadi Keluarga Ciamis Hospital, and were associated with several factors. These factors with the highest prevalence to the lowest are low birth weight (36,07%), labour complications (31,14%), premature birth (27,87%), none cephalic presentation of the fetus at birth (22,95%), premature of rupture membrane (21,31%), oligohydramnion (13,11%), and preeclampsia (11,48%).

Conclusion: The prevalence of perinatal asphyxia was high. Several factors were predictors of perinatal asphyxia. Early detection and intervention of high risk mothers should be carried out by health care providers.

Keywords: Newborns, Perinatal Asphyxia, Prevalency.

MISCL-2-01

Familial Hypokalemic Periodic Paralysis in a 17-year-old Boy

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Objective: Familial hypokalemic periodic paralysis (HypoKPP) is a rare autosomal dominant inherited disorder with an incidence rate of 1:100,000, onset at peripubertal age, predominant in Asian race and is more prevalent in men than in women. The symptom is acute muscle weakness accompanied by a decrease in plasma potassium levels (<2.5 mmol/L). Early identification and treatment is important because of the risk cardiac arrhytmia and respiratory failure.

Case: A 17-year-old boy presented to ER for acute weakness with motor strength of 3/3/3/3. Laboratory test show a plasma pottasium (2.10 mmol/L) and a urinary potassium (7.36 mmol/L). Prior to the symptoms, the patient regularly doing sport activities. The patient never felt the symptom before, but the patient's family had similar symptom. Abdominal ultrasound revealed grade 1 left hydronephrosis and proximal hydroureter on the left side with suspected left ureterolithiasis as the cause, possibly a complication of HypoKPP. The patient was diagnosed with familial HypoKPP based on the presence of muscle weakness associated with hypokalemia and a family history. Symptomps progressively resolved after potassium supplementation.

Conclusion: The patient was diagnosed with familial HypoKPP based on the presence of symptoms along with hypokalemia and a family history. Physical exertion triggered the attacks. Complications included grade 1 left hydronephrosis and proximal hydroureter on the left side with suspected left ureterolithiasis. Genetic test is warranted, although nearly 20% is undefined. Provocative testing is potentially dangerous because it can precipitate life threatening arrhythmias or hypoglycemia and therefore rarely practiced in pediatric.

Keywords: Familial Hypokalemic Periodic Paralysis, Muscle Weakness, Pottasium, Physical Exercise

MISCL-2-06

The Relationship Between Menstrual Characteristics with the Incidence of Anemia in Adolescents at Islamic Boarding School: Case-control Study

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Background: Anemia is a common problem among adolescent girls in Indonesia. Anemia can be caused by several factors, one of those is loss of blood that occurs during menstruation. This study aims to determine the relationship between menstrual characteristics with the incidence of anemia in adolescents at Islamic boarding school.

Methods: This Case-control study was conducted at the Islamic Boarding School in Sragen, involving 64 adolescent girls aged 13-15 years (33 anemic subjects as Cases, 31 non-anemic subjects as controls) from July – August 2023. Girls who had at least three menstrual cycles were included. Data were obtained from self-administered questionnaires on menstrual characteristics (menarcheal age, menstrual cycle, duration, and flow intensity). Subjects were measured for anthropometric and hemoglobin levels. Chi-square, Fischer, Mann-Whitney, Independent T-Test, and logistic regression analysis were used for data analysis.

Results: The results from bivariate analysis showed that there was a relation between anemia and menarcheal age (p= 0.031; OR= 0.31) and menstrual duration (p=0.001; OR=0.17), while the unrelated factors were menstrual flow intensity and menstrual cycle. However, the mean menstrual cycle was significantly shorter in anemic subjects (25.26 days) than in controls (40.21 days) (p=0.001) analyzed by Mann-Whitney Test. Logistic regression analysis revealed that menstrual duration was an independent risk factor for anemia (p=0.004; OR=0.19) compared to other menstrual characteristics. Prolonged menstrual duration was more frequent in Cases (78.8%) than in controls (38.7%).

Conclusion: Menstrual duration is the risk factor for anemia in adolescent girls. Adolescents with prolonged menstrual duration are at risk for anemia.

Keywords: Anemia, Menstrual characteristics, Menstrual duration, Adolescent, Boarding School

Table 1. Characteristic of Subject

Characteristic	Incident of Anemia		Total (N= 64)
	Anemic (N= 33)	Non-anemic (N= 31)	
Age, years			
Mean (SD)	14.22 (SD 0.64)	14.06 (SD 0.72)	14.14 (SD 0.68)
Median (range)	14.33 (13.10 – 15.31)	13.93 (12.93 – 15.37)	14.18 (12.93 – 15.37)
Birth Year, n(%)			
2008	11 (33.3)	8 (25.8)	19 (29.7)
2009	12 (36.4)	13 (42.0)	25 (39.0)
2010	10 (30.3)	10 (32.2)	20 (31.3)
Hemoglobin level, g/dL			
Mean (SD)	10.82 (SD 0.75)	12.58 (SD 0.56)	11.67 (SD 1.11)
Median (range)	11.10 (8.9-11.8)	12.40 (12-14.3)	11.75 (8.9 – 14.3)
Anemia Classification, n(%)			
Non-anemic (≥ 12.0 g/dL)		31 (100)	31 (48.44)
Mild (11.0-11.9 g/dL)	19 (57.5)		19 (29,68)
Moderate (8.0- 10.9 g/dL)	14 (42.5)		14 (21,88)
Severe (<8.0 g/dL)	0 (0)		0 (0)
Monthly Family Income Category, n(%)			
Low	4 (100)	0 (0)	4 (6.3)
Middle	23 (50)	23 (50)	46 (71.9)
High	6 (42.9)	8 (57.1)	14 (21.9)
BMI for age, Zscore			
Mean (SD)	0.62 (SD 1.18)	0.67 (SD 1.26)	0.65 (SD 1.21)
Median (range)	0.73 ((-1.76) – 2.94))	0.83 ((-1.97) – 2.47))	0.78 ((-1.97) - 2.94))
Nutritional Status, n(%)			
Thinnes	0 (0)	0 (0)	0 (0)
Normal	21 (56.8)	16 (43.2)	37 (57.8)
Overweight	7 (43.8)	9 (56.3)	16 (25.0)
Obesity	5 (45.5)	6 (54.5)	11 (17.2)

Table 2. Bivariate analysis on menstrual characteristics and the incidence of anemia

Variable	Incidence of Anemia		Total	*p*- Value	OR	95% CI
	Anemic (N= 33)	Non-anemic (N= 31)				
Menarcheal age category, n(%)				0.031[a] *	0.31	0.10 – 0.91
Early menarche (≤11 years)	16 (48.5)	7 (11.1)	23 (35.9)			
Normal (>11 years)	17 (51.5)	24 (77.4)	41 (64.1)			
Menstrual cycle category, n(%)				0.656[a]	1.34	0.36 – 4.94
Reguler (21-45 days)	28 (84.8)	25 (80.6)	53 (82.8)			
Irregular (<21 or >45 days)	5 (15.2)	6 (19.4)	11 (17.2)			
Menstrual duration category, n(%)				0.001[a] *	0.17	0.05 – 0.51
Normal (≤ 7 days)	7 (21.2)	19 (61.3)	26 (40.6)			
Prolonged (> 7days)	26 (78.8)	12 (38.7)	38 (59.4)			
Menstrual flow intensity, n(%)				0.614[b]	0.33	0.03 – 3.38
Light - Moderate (1-6 pads/day)	30 (90.9)	30 (96.8)	60 (93.8)			
Heavy (>6 pads/day)	3 (9.1)	1 (3.2)	4 (6.3)			
Mean rank menstrual cycle, days	25.26	40.21		0.001[c]		
Mean menarcheal age, years	11.26 (SD 1.08)	11.90 (SD 1.15)	11.57 (SD 1.15)	0.026[d]		11.28 – 11.86

[a] Chi-square Test [b] Fischer Exact Test [c] Mann Whitney Test [d] Independent T-Test; *p<0.25 on categorical variable

Table 3. Logistic regression analysis of menstrual characteristics and the incidence of anemia

Variable	β	SE	Exp (β)	*p*- Value	CI 95%
Menarcheal age	-0.941	0.594	0.390	0.113	0.122 – 1.250
Menstrual duration	-1.643	0.576	0.193	0.004*	0.063 – 0.598

β coeffisien regression; constant: 3.833, *p<0.05

MISCL 02

Risk Factor Assessment of Hirschprung Disease in Down Syndrome Neonatus with Family Function Aspect : Case Report

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Background : Hirschsprung disease is a congenital disorder characterized by the absence of ganglion cells in the submucosal Meissner plexus and in the myometrial Auerbach plexus. The disease affects about 1 in 5,000 live births. It is a congenital condition associated with Down syndrome and another abnormality. A functional family is needed for comprehensive management of Hirschsprung disease in Down syndrome patients. A family functioning assessment should be performed by a primary care physician as an effort to prevent another risk factor.

Case : 1-month years old neonates presenting with chronic constipation (4 weeks), poor feeding, weakness, and bilious vomiting. Previous history was high risk maternity (multipara, geriatry pregnancy, and posterm) and hospitalized with meconium aspiration. Clinical examination showed distended abdomen, hypo-peristaltic, malnutrition (-2SD), and Down syndrome characteristics. Patients was transferred initially diagnosed with ileus paralytic suspect Hirschsprung's disease. Abdominal X-rays showed a dilated colon occupying abdominal cavity then surgery was performed after he had gained sufficient weight. Intensive care and treatment by the pediatric surgeon for three months. The results of APGAR family function assessment showed moderate family dysfunction (5-6) and SCREEM examination showed pathological disorders in social, cultural, educational, economic and medical aspects.

Conclusion : Earlier suspicion of Hirschsprung's disease in patients with Down syndrome may improve outcomes. family function approach with holistic and comprehensive is the one of management choice detecting risk factors.

Keywords : Hirschprung Disease, Down Syndrome, Family Function

MISCL 03

Epidermolysis Bullosa Acquisita in Newborn: a Case Report

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Background: Epidermolysis bullosa acquisita (EBA) is a rare chronic autoimmune blistering disease of the skin and mucous membranes. EBA is caused by autoantibodies to type VII collagen, the main component of the anchoring fibrils of the stratified squamous epithelium. The resulting loss of dermo-epidermal adhesion can manifest from mild skin fragility to severe mucosal stenosis.

Case: A female term baby was born by normal vaginal delivery with a birth weight of 3.075 g and an Apgar score of 7/9. The antenatal period was uneventful. She had no family history of any blistering skin disease. The baby was noticed to have large skin erosions at the knee, ankles, and feet at birth. The rest of the systemic examination was normal and the baby did not have any feeding or respiratory difficulty. She was admitted to SCN, no sign of infection in the septic workup. She was given strict wound care, intravenous antibiotics, topical antibiotic, and other supportive care. By 3rd postnatal day, no new lesions appeared and the old lesions began to partially dry out. The baby was discharged on postnatal day 3 in stable condition with parents counselled regarding gentle handling of the baby and care for lesions.

Conclusion: EBA is a chronic disease with high morbidity. The gold standard diagnosis is the direct IF microscopy of perilesional skin biopsy. There is no specific therapy and the response to treatment is variable. Proper management and prevention of secondary infections are the main keys to the management of EBA patients.

Keywords: *epidermolysis bullosa, blisters, fragile*

Figure 1. Skin erosions at the lower limb

Figure 2. Skin erosions on the right lower limb

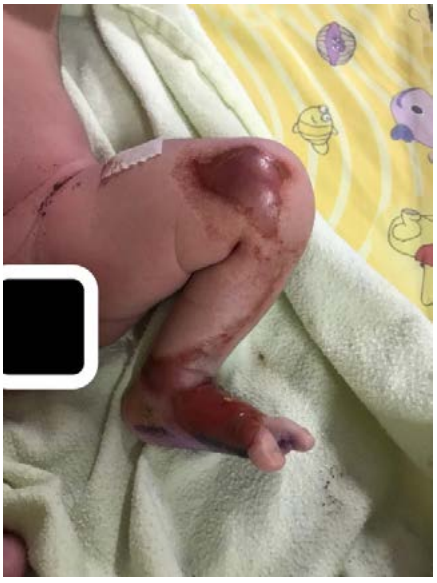

Figure 3. Skin erosions on the left lower limb

MISCL 06

Intracranial Hemorrhage in Children with Cholestatic Liver Disease: A Challenge in Emergency Setting

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Objective: Children with cholestatic liver disease are at risk for developing secondary vitamin K deficiency due to fat malabsorption. Vitamin K deficiency could lead to spontaneous hemorrhage, including intracranial hemorrhage (ICH). Cholestatic children with ICH might come with decrease of consciousness, which could also be present in hepatic encephalopathy, hypoglycemia, or severe electrolyte imbalance. This Case report presented a cholestatic children with intracranial hemorrhage and its challenges in emergency setting.

Case: A 7-month-old girl was brought to emergency room due to decrease of consciousness since 1 day before admission. This complaint occurred suddenly, with no history of head trauma, seizure, fever, vomiting, diarrhea or shortness of breath. She was already diagnosed with cholestatic liver disease due to biliary atresia. Physical examination showed bulging fontanelle, isochor pupils, anemic conjunctiva, icteric sclera and skin, with extremities showing spastic, no lateralization, and increased physiologic reflexes. Laboratory workup showed anemia, prolonged PT and aPTT, normoglycemic, normal ammonia, and severe hyponatremia. A head CT scan was promptly done showing intraparenchymal hemorrhage in right frontotemporoparietal lobe. Neurosurgery department advised there was no surgical intervention needed. She was given vitamin K injection and fresh frozen plasma to prevent further hemorrhage. Anemia was corrected with blood transfusion and hyponatremia was also quickly corrected intravenously. Patient was slowly regaining her consciousness with no neurological sequel seen.

Conclusion: Decrease of consciousness in children with cholestatic disease could have distinct differential diagnosis and management. Prompt recognition and precise management in emergency setting are of importance for less complication and better outcome.

Keywords: intracranial hemorrhage, cholestatic liver disease

MISCL 11

The Characteristic Nosocomial Infetion in Neonatal Unit in Hasan Sadikin Hospital Bandung

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Background. Nosocomial infection in neonatal unit remain the major causes morbidity and increase length hospitalization. Effective strategies to reduce nosocomial infections of neonates in neonatal unit require a comprehensive study.

Methodology. A retrospective study from Neonatology Registry were searched from January 2022 until June 2023.

Result. Out of 382 Cases sepsis neonatorum born in our hospital; most of the infections were caused by Acinetobacter (22%), Klebsiella (12,8%) and Candida sp (5,8%). Mikroorganism detected from blood culture at second week. The most of our Case come from sectio caesarean delivery (34,8%). Prematurity and low birth weight were the dominant group in nosocomial infections (49,4% and 49%). Our study show that the most patient were hospitalized more than 28 days (14,6%). The death rate for nosocomial infection was 32%.

Conclusion. The incidence rate of nosocomial infection in neonates admitted to neonatal unit was reported, particularly sectio caesarean delivery, premature and low birth weight neonates. Early identification of nosocomial infection and its risk factors remain the keys to successful management of this condition

Keywords: Nosocomial Infection, Sepsis Neonatorum, Neonatal Unit

MISCL 12

Progression of acute kidney injury with multiple inflammatory syndromes in 7 years old child: a Case report

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Objective: Multisystem inflammatory syndrome (MIS-C) is a pediatric hyper-inflammatory disorder following SARS-CoV-2 infection. The occurrence of AKI in patients with MIS-C is 25-33%.

Case: A patient came with chief complaints of decreased consciousness, generalized tonic-clonic seizure duration of 3-5 minutes, shortness of breath, vomiting, unable to urinate and puffiness around the body. The patient initially complained of vomiting eight days before admission. On physical examination, he had a blood pressure of 170/110 mmHg, pulse rate of 130x/min, and respiratory rate of 40x/min. RT PCR showed a negative result, increasing ureum (196 mg/dL), creatinine (11,86 mg/dL), increasing D-dimer, positive C-reactive protein, hyponatremia, hyperkalemia, hypoalbuminemia, anemia, leucocytosis, neutrophilia, lymphocytopenia, and hematuria. He received NaCl 0,9% 500cc/24 hrs, ceftriaxone injection 1x500 mg, phenobarbital injection 2x30 mg, diet netrisol 8x20 mL and haemodialysis in emergency room. He was diagnosed with acute kidney injury, keratitis exposure, and electrolyte imbalance. He died after 16 days of treatment due to apnea and cardiac arrest.

Conclusion: Children can suffer from severe renal failure with MIS-C. The previous history of COVID-19 might be present or not since children can be asymptomatic or there is a limited diagnostic tool.

Keywords: Multisystem inflammatory syndrome, acute kidney injury, COVID-19, pediatric.

MISCL 19

Clinical Profile of Patients with Pediatric Tuberculous Meningitis in Dr Sardjito Hospital, Yogyakarta

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Background/objective: Tuberculous meningitis(TBM) is the worst complication from Tuberculosis. Around 19% TBM are died and more than 50% survive with neurodisability. To find clinical profile of patient diagnosed with TBM in hospitalitation.

Methodology: We conducted a retrospective study in children diagnosed with TBM at the DR Sardjito Hospital from January 2018 to December 2022.

Results: A total of 12 (mean age 7 years) children were recruited. Among the recruited patients; 9 (75%) were female, 4 (33.3%) were severely wasted. The comorbid diseases of patients included miliary TB (25%) were 16.7% pulmonary TB, and covid infection (16.7%). Abnormalities neuroimaging, detected 8.3% had infarct, 33.3% ventricel dilatation and 8.3% tuberculomas. The proportion of patients with length of stay <30days were 83.3% (10/12) with the mean of hospital stay in PICU was 37.5 days and 4 (33.3%) died. TBM sequele is spastic tetraparese (16.7%).

Conclusion: There was a large burden of TBM in children admitted to DR Sardjito Hospital with 33.3% mortality.

Keywords: Clinical profiles, outcome, Tuberculous Meningitis, children

MISCL 31

The Impact of Prenatal Music Therapy on Fetal Status: A Systematic Review and Meta-Analysis

Firstya Diyah Ekasiwi, **Intan Permata Sari**

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Department of Child Health, Dr. Soetomo General Hospital, Surabaya, East-Java

Introduction: Music therapy is a type of systematic treatment that arranges the physiological and psychological effects of musical sounds and melodies. Previous study has shown that music therapy can be beneficial during pregnancy. Because music therapy has the potential to influence the fetus and is a low-cost, non-invasive, and user-friendly supplemental treatment, it is important to better understand its application for fetuses.

Methods: We collected data from several studies including Pubmed, Cochrane Library and ScienceDirect that were published from the last 10 years. The outcome includes parameters such as fetal heart rate and fetal movement. Statistical analysis was analyzed using RevMan 5.4 with a 95% confidence interval (CI) and the risk of bias is determined through the RevMan 5.4 application.

Results: A total of 5 published studies with a total number of 773 pregnant women were included in this meta-analysis. The pooled analysis showed there were significant improvement in fetal heart rate [5.10 (4.16 to 6.04); 95% CI, p-value < 0.00001; I^2= 88%] and fetal movement [0.61 (0.24 to 0.99); 95% CI, p-value = 0.001; I^2= 26%].

Conclusion: Music therapy during pregnancy might significantly improve fetal status including fetal heart rate and fetal movement.

Keywords: Fetal Heart Rate, Fetal Movement, Meta-Analysis, Music Therapy, Pregnancy

MISCL 39

The Challenge of Differentiating Tuberculous Meningitis from Bacterial Meningitis in Non-Spesific Clinical Manifestation

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Objective: Meningitis in children is a global health concern, as it carries the risk of long-term effects and complications. Classic triad of fever, neck stiffness and altered mental status only present in 41% of Cases of bacterial meningitis. Tuberculous meningitis (TBM) is more likely to cause cranial nerve deficits and infarcts.

Case: A 17-month-old-girl was admitted to emergency room with sudden weakness on the left extremities and left facial stiffness. History of fever and cough for two weeks. The patient was compos mentis, high temperature and underweight. On neurological examination, left facial nerve palsy, left hemiparesis and clonus were found. No nuchal rigidity and seizure. Negative GeneXpert and tuberculin test. Chest X-ray showed active pulmonary TB and the computed tomography (CT) of the brain showed meningeal enhancement suggestive of meningitis. Laboratory test showed leukocytosis (37.100/mm^3). We suspected TBM as a differential diagnosis at first. The patient was treated with four antituberculosis drugs, oral corticosteroid and ceftriaxone. The lumbar puncture showed cell count (700cell/mm^3), predominance of polymorphonuclear leukocytes (66%), protein concentration (0.47 g/dL), and cerebrospinal (CSF) glucose (72 mg/dL) indicates a bacterial meningitis. After several days treatment, the patient showed clinical improvement in her motoric function.

Conclusion: Although TBM is more common with neurologic deficits, the clinical manifestation of TBM and bacterial meningitis can be similar. Therefore, bacterial meningitis should be considered in the differential diagnosis which can be confirmed by CSF analysis.

Keywords**:** Meningitis, facial nerve palsy, hemiparesis

MISCL 45

Thalasemia dengan Gizi Buruk, Stunting, dan Keterlambatan Motorik Pada Anak

Ratu Hanny Anggorowati, Huminsa Ranto Morison Panjaitan, Vani Kusuma wardani , Andre Yusanto

Latar Belakang : Thalasemia adalah kelainan genetik yang memengaruhi sintesis rantai globin, menyebabkan eritropoiesis tidak efektif, peningkatan hemolisis, dan gangguan homoeostasis zat besi. Insiden pembawa sifat thalasemia di Indonesia berkisar 6-10%, artinya bahwa setiap 100 orang penduduk terdapat 6-10 orang yang merupakan pembawa sifat thalasemia. Prevalensi thalasemia di provinsi lampung 92% , lebih tinggi dibandingakan provinsi Bengkulu 30%, dan Bali 23%. Pada thalasemia terjadi proses hemolisis sehingga terjadi anemia kronis yang mengakibatnya hipoksia jaringan, menyebabkan gangguan penggunaan nutrien pada tingkat sel, sehingga terjadi gangguan pertumbuhan. Thalasemia dan gizi buruk merupakan salah satu penyakit yang memiliki banyak factor resiko.

Kasus : Pasien anak A, Usia 2 tahun 6 bulan jenis kelamin perempuan dengan keluhan utama lemas dan pucat dirasakan sejak kurang lebih 1 bulan ini, keluhan diperberat nafsu makan anak menurun. keluhan lain perut membesar sejak kurang lebih 6 bulan. Riwayat berat badan lahir rendah. Pasien belum bisa berjalan hanya bisa duduk merangkak. Riwayat imunisasi tidak lengkap dan tidak sesuai usia. Pada pemeriksaan fisik tampak rambutnya hitam kemerahan, tampak facies cooley, konjungtiva anemis +/+, skelera ikterik (+/+), ditemukan hepatosplenomegali schuffner 4. Pada hasil laboratorium hemoglobin: 2,4 gr/dl, hematokrit 7 % dan elektroforesa HB menunjukan thalasemia. status gizi : BB/U : <-3SD (gizi buruk), PB/U : <-3SD (gizi buruk) BB/TB : <-2SD (gizi kurang).

Kesimpulan : Banyak faktor yang menyebabkan gizi pada anak thalasemia rata-rata dibawah normal, yaitu asupan gizi yang kurang, penyakit kronik yang dialami, sosial ekosnomi rendah yang dikemudian hari akan mempengaruhi pertumbuhan dan perkembangan pasien thalasemia.

Kata kunci : Anemia, Thalasemia,Gizi Buruk, Stunting, dan Keterlambatan motoric

MISCL 56

Determinants of Extended Neonatal Intensive Care Unit Stay at Hermina Hospital Sukabumi

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Hermina Hospital Sukabumi

Objective: Prolonged hospitalization in the Neonatal Intensive Care Unit (NICU) not only escalates healthcare costs but also potentially exposes neonates to further complications. This study aimed to identify the significant predictors influencing the length of stay (LOS) in the NICU at Hermina Hospital, Sukabumi, thereby facilitating efficient resource optimization.

Methodology: Employing a retrospective cohort design, we reviewed the medical records of all neonatal admissions from July 1, 2022, to July 1, 2023. Length of stay was evaluated against several factors: gender, birth weight, mode of delivery, maternal pregnancy status, pregnancy complications, patient origin, APGAR scores, and Downe Scores. Descriptive and inferential statistics were computed using SPSS version 29, with linear regression models aiding in univariate and multivariate analyses.

Results: Among the 156 samples, birth weight and APGAR scores emerged as significantly associated with LOS (p-values 0.003 and 0.015, respectively), whereas the other predictors did not reveal a significant association. T-test outcomes suggested a partial impact on birth weight and APGAR scores (t-values surpassing the critical t-value, with respective p-values < 0.001 and 0.014). Multiple regression analysis further indicated that all predictors collectively explained 19.3% of the LOS variation.

Conclusion: Our findings emphasize that birth weight and APGAR scores significantly contribute to prolonged NICU stay. Therefore, efforts towards effective neonatal resuscitation could improve APGAR scores and subsequently reduce the LOS, enhancing overall neonatal outcomes.

Keywords: *Length of Stay, Neonatal Intensive Care Unit, Risk Factors*

MISCL 75

Role of Urinary pH as Mortality Predictor in Pediatric Intensive Care Unit Hasan Sadikin General Hospital

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Background : Urinalysis is an inexpensive and simple test that could provided useful information and can be performed in many laboratories. In pediatric intensive care unit, some markers have been used to restrict mortality such as C-reactive protein and procalcitonin. This study aimed to examine whether urinary pH has any prognostic role in respect of mortality in pediatric intensive care unit.

Methodology : This is an analytical study conducted in Hasan Sadikin General Hospital during 2021 –2023. We recorded the diagnosis, length of stay, and urinalysis of the patient. Then we excludedpatient that has length of stay less than 24 hour and had chronic kidney disease. The statistical analysis was performed by paired t-test and Chi-square test.

Result : In total 118 patient, only 59 patients met intrinsic criteria. Fifty two percents of patients were male, 42% aged 0 –5 years old, and 68% patient had length of stay 10 days. Eighty three percent patient had pH urine 83,1%, and 55,2% died. Unfortunately we did not found any correlation between pH urine and mortality as study conduct in adult ($p>0.05$).

Conclusion : This study showed most patient in intensive care unit had pH urine >5,5 but did not significantly correlated with mortality. Further study with larger samples and better enrolment technique is needed to see role of pH urine to predict mortality in intensive care unit.

Keyword : pH urine, mortality, intensive care, children

MISCL 07

End Stage Renal Disease in Children with Nephrotic Syndrome due to Focal Segmental Glomerulosclerosis: A Case Report

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Background: Focal segmental glomerulosclerosis (FSGS) is one of the most common causes of nephrotic syndrome leading to end stage renal disease (ESRD) in children. The incidence of childhood nephrotic syndrome due to FSGS has been increasing over the last 20 years. Therapy of FSGS consists conservative management and immunosuppressive therapy to preserve kidney function. There is still conflicting result for second line immunosuppressive agent with 25-40% rate of complete and/or partial remission.

Case: A 14 year old boy came with complaints of edema in palpebral, upper and lower extremities, and ascites with abdominal discomfort and decrease in urine production. Physical and laboratorial exam indicated hypertensive urgency, nephrotic range proteinuria, and decrease in renal function. The patient has the same complaints since 4 months prior to admission and already given methylprednisolone in previous hospital, but there was no improvement. A renal biopsy was performed and focal segmental glomerulosclerosis was observed. Renogram resulted in minimal function on both kidneys. The patient undergoes hemodialysis twice a week and given diuretics, calcium channel blocker and angiotensin converting enzyme inhibitors. The patient then queued for kidney transplantation.

Conclusion: Focal segmental glomerulosclerosis (FSGS) with inadequate therapies can manifest in progressive loss of kidney function. Treatment consideration for second line immunosuppressive therapy is needed if first line therapy is considered ineffective to prevent disease progression towards renal failure.

Keywords: end stage renal disease, focal segmental glomerulosclerosis, nephrotic syndrome

MISCL 57

Evidence Base Case Report: Association between Sodium Intake and Obesity in Children and Adolescents

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Background: Obesity is a state of abnormal accumulation of body fat which can lead to a risk to health, determined by BMI criteria above the 95th percentile on the 2000 CDC BMI chart. One of five children aged 5-12 years, and one of seven adolescents aged 13-18 years in Indonesia suffered from obesity. The most associated risk factor of obesity in children is the high intake of nutrients, especially the sodium level in the child's daily diet.

Objective: To determine the association between sodium intake and obesity in children and adolescents.

Methodology: Systematic review was conducted with journal searches from 2017 to 2023. The searches were carried out on the PubMed, Google Scholar, and ScienceDirect databases with keywords “Children” AND “Adolescents” AND “Sodium Intake” AND “Obesity”. Journals are reviewed systematically using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols (PRISMA-P) method and the Oxford Center for Evidence-based Medicine criteria.

Results: A literature search obtained 3 literatures and a critical review was carried out. Sodium intake has a significant association with the prevalence of obesity in children and adolescents aged 2-18 years, with p value <0.001.

Conclusion: There is an association between sodium intake and obesity in children and adolescents. In children and adolescents, high sodium intake increases the risk of obesity.

Keywords: adolescents, children, obesity, sodium intake

MISCL 66

Profile and Survival Rate of Osteosarcoma Children: A Single Center Study

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Background: The incidence and prevalence of osteosarcoma is relatively low compared to other malignancies. However, its aggressive nature and frequent occurrence in the pediatric population are certainly reasons why more understanding of this disease is needed. Thus, more research is needed on osteosarcoma, especially in children.

Aim/Objectives: This study aimed to explore the characteristics of osteosarcoma among pediatric patients in Dr. Hasan Sadikin General Hospital Bandung, West Java, Indonesia in the period of 2020–2023.

Methods: This research is a retrospective descriptive study, with total sampling data collection method. Data collected included gender, age, staging, and outcome of osteosarcoma.

Results: From all 51 patients data collected, there were 31 males (60.9%) and 20 females (39.1%). This population was predominated by the age group of more than 10 years old as many as 40 people (78.4%) and the age group less than 10 years as many as 11 people (21.6%). The most common stage of osteosarcoma in this study was stage II osteosarcoma in 27 patients (52.9%). The outcome in 35 patients was predominated by death, in 17 patients (48.6%).

Conclusion: Osteosarcoma is the most common malignancy among the pediatric population. However, patient and family awareness of the condition and impact of osteosarcoma is still relatively low. Future research is recommendeded to obtain data on a wider population to find out more about osteosarcoma as a whole.

Keywords: Osteosarcoma; Children; Characteristics

MISCL 67

The Effectiveness of Aminophylline for Acute Kidney Injury Prevention in Term Neonates with Perinatal Asphyxia: An Evidence-Based Case Report

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Background: Acute kidney injury (AKI) has been reported as one of the most common complications of perinatal asphyxia. Adenosine is known to play a role in the pathogenesis of renal injury secondary to hypoxemia. Adenosine receptor antagonists, theophylline or its salt formulation aminophylline, were reported to have a renoprotective benefit. This evidence-based Case report aimed to investigate the efficacy of aminophylline in preventing AKI in term neonates with perinatal asphyxia.

Methodology: Literature research was conducted through electronic databases using PubMed, The Cochrane Library, and Embase.

Results: Electronic literature searches obtained two eligible articles for critical appraisal. The systematic review and meta-analysis of randomized controlled trials (RCTs) indicated that a single dose of theophylline/aminophylline has a protective effect of preventing AKI in term neonates with perinatal asphyxia (OR 0.25, 95% CI 0.16 to 0.38, $p<0.001$) and the number needed to treat was determined to be 3.3. The RCT study revealed that administering one dose of aminophylline resulted in significant improvements in renal function on the third day in the intervention group, which were a decrease in creatinine level with an MD of -9.3 (95% CI -8.9 to -9.7, $p = 0.02$), an increase in GFR with an MD of 10.7 (95% CI 10.1 to 11.3, $p=0.009$), and an increase in diuresis with an MD of 39.9 (95% CI 24.9 to 54.9, $p=0.001$). No significant adverse effects were reported.

Conclusion: A single-dose prophylactic of aminophylline is effective and safe in preventing AKI in term neonates with perinatal asphyxia.

Keywords: acute kidney injury, aminophylline, asphyxia.

MISCL 68

Prevalence of Small, Appropriate, and Large for Gestational Age in Neonates Born in Hasan Sadikin Hospital from 2017 to 2022

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Background: Low birth weight (LBW) is a major determinant of infant mortality, especially in the first month of life. Indonesia ranks third as a country with the highest prevalence of LBW (11.1%), after India and South Africa. LBW affect the high rate of morbidity and mortality in infants. This study aimed to determine the prevalence of low birth weight based on the birth weight and gestational age at Hasan Sadikin Hospital Bandung in 2017-2022.

Methods: The method of this study was a descriptive study using a cross-sectional design. The population in this study were all neonates born in Hasan Sadikin Hospital Bandung from January 2017 to December 2022.

Results: Total of 15,101 infants born in Hasan Sadikin Hospital Bandung were included in this study and 1,217 infants were excluded because there was no data on gestational age or birth weight. The prevalence of term infants were 7,359 (52.9%), premature infants were 6,517 (46.93%). Neonates with normal birth weight was 6,487 (46.7%), low birth weight was 5,541 (39.9%). Based on birth weight to gestational age, the results of small for gestational age were 0.14%; appropriate for gestational age 99.72%; and large for gestational 0.14%.

Conclusion: The prevalence of neonates with appropriate for gestational age were 99.72%, and 0.14% with small and large gestational ages, respectively. The number of premature infants were 46.93%. The number of low birth weight infant is as high as one third (39.9%) of the total baby population in 2017-2022.

Keywords: birth weight, gestational age, prevalence

MISCL 69

Management of Early Multiple Sclerosis in Children: A Case Report

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Background: Multiple Sclerosis (MS) is a chronic autoimmune demyelinating disease of the central nervous system (CNS) and the leading non-traumatic cause of neurological disability in young adults. Age peak incidence at 13th-16th years old in children. Newly diagnosed MS in children have a better prognosis if treated early with high dose intravenous methylprednisolone.
Case illustration:
16-year-old girl, previously diagnosed as multiple sclerosis, presenting with motoric weakness, impaired coordination, and sensory disturbance The symptomatic lesion in a patient presenting with brainstem or spinal cord has the evidence of dissemination in space (DIS) and dissemination in time (DIT) with typical multiple sclerosis (MS) based on diagnosed criteria by McDonald's in 2017 lesion area such as periventricular, cortical, juxtacortikal and infratentorial. Positive oligoclonal bands in cerebrospinal fluid examination in this patien also important to recognise MS in the first attack without the need of DIT criteria. High dose methylprednisollon has been given as the first line therapy. Significant clinical improvement was achieved after that. A multidisciplinary approach to perform a long- term monitoring as recommended surveillance and management for multiple sclerosis patient is needed.
Conclusion: Brain demyelinating manifestations with dissemination in space (DIS) and dissemination in time (DIT) is a sign for early diagnostic and appropiate treatment of multiple sclerosis. It's crucial for better prognosis and reduce the complications that may occur in the future.

Keyword: Multiple sclerosis, Brain demyelinating, autoimmune demyelinating, pediatric

MISCL 71

Oesophageal Atresia with Tracheoesophageal Fistula: Early Detection and Pretransfer Management of Neonates with Respiratory Distress Complications

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Background: Oesophageal atresia (OA) with tracheoesophageal fistula (TEF) is a congenital abnormality that frequently indicated by respiratory disorder in neonates. This can increase morbidity and mortality so that early diagnosis and treatment play the crucial roles.

Case: A baby girl was born spontaneously to a G6P4A1 mother at 33-34 weeks with gestational diabetes mellitus, with an Apgar score of 7/9. One hour after birth, the baby looks breathless, moaning and cyanotic. The baby experiences hypersalivation and chest wall retraction. The patient was then transferred to the NICU and given ventilator breathing assistance. There was a failure in passing Orogastric Tube (OGT) due to blocking. On babygram examination, it appears that an OGT is attached with the tip as high as the Th1 vertebral body and there is still air density lucencies in the intestine, liver and pelvis. The patient was diagnosed with respiratory distress syndrome and suspected of OA with TEF. The patient was planned to be referred to paediatric surgeon department but has not received a referral immediately. The patient was stabilized by ventilator support, parenteral fluids, intravenous antibiotics, and regular suctioning. The patient was successfully treated for 6 days before being transferred to the referral hospital.

Conclusion: All neonates diagnosed with OA/TEF must be transferred to a neonatal surgical centre as soon as practical to operative management. Pretransfer stabilization plays an important role in the outcome of therapy. Two months post-surgical procedure at the referral hospital, the patient revisited to our hospital in stable condition.

Keywords**:** Oesophageal Atresia, Tracheoesophageal Fistula, Respiratory Distress, Pretransfer Stabilization

MISCL 76

The Association Between Physical Activity, Eating Habits With Body Height Among Senior High School Students In Jatinangor District

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Objective: Growth is one of the health indicators in adolescence. There are several factors that may positively influence height growth such as hormone, nutrition, physical activity, and environment. Physical activity is modifiable factor that can increase bone growth. The aim of this study is to determine association between physical activity and body height among senior high school students in Jatinangor district.

Methods: A descriptive and analytical study with a cross-section design was conducted on 231 senior high school students in Jatinangor District. Each respondent completed a questionnaire that included questions about their self- identity, sociodemographic information, eating habits, and physical activity patterns, in addition to an anthropometric assessment. To assess the association, chi-square bivariate analysis was used. Study data was analyzed using the SPSS program.

Result: Chi-square analysis showed there was no association between physical activity (p= 0.219) and body height. There is significant association of male sex with normal height and short stature (p=0.046; OR: 1.72; 95% CI: 1.01–2.94) and between eating habits with frequency of protein consumption and body height (p=0.029; OR 2.33; 95% CI: 2.07-5.07). Body height also associated with frequency of vegatebles consumption (p=0.041; OR 2.65; 95% CI: 1.06-6.80). There was no association found with other eating habits, family income, and parent's education with body height.

Conclusion: There is significant association between protein and vegetable consumption with body height among senior high school students. The results of this study indicate that higher frequency of protein and vegetable consumption both have benefits for growth.

Keywords: eating habits, height, physical activity

MISCL 64

A Child With Von Willbrand Disease in Healthcare Facility with Limited Availability : A Case Report

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Background: Von Willbrand Disease is a congenital bleeding disorder due to deficiency or defect in von Willbrand factor (FvW), a coagulant protein in blood clotting that stimulates platelet aggregation. FvW can be divided into three types, Type 1: deficiency in FvW levels, Type 2: FvW dysfunction, and Type 3: no FvW is produced. The incidence ranges about 0.1% of the population if based on laboratory evidence and combined with a history of bleeding. The disease has been rarely reported in Indonesia due to limited diagnostic facilities or mild symptoms resulting in underdiagnosis.

Case report: A 2 year old boy, came to the emergency room with chief complaint of epistaxis. The patient often has epistaxis and difficulty to stop bleeding. The patient's vital signs was stable. Rhinoscope examination found bilateral synechiae. From the laboratory examination results obtained hemoglobin 12 g/dl to 4.3 g/dl in 12 hours, APTT 42,2 second, VIII factor 33%, IX factor 69,1%, FvW: Ag 19.7% and FvW: Activity 0.3%. Patient was given tranexamic acid 100 mg/12 hours IV, VIII factor therapy, for synechiae release was planned with haemoctin and VIII factor prophylaxis.

Conclusion: Laboratory examination forms a very important part of the diagnosis of von Willbrand's disease. Patient with clinical bleeding and prolonged APTT, necessary to test VIII factor, IX factor and Von Willbrand factor. Diagnosis made if the FvW: Ag level <30 U/dL. Limited laboratory tests and underdiagnosis of patients are often diagnosed with type A hemophilia.

Keywords: Von Willbrand Disease, Laboratory Examination, Diagnosis

MISCL 72

Mental, Emotional, and Behavioral Disorder in Adolescent at Hasan Sadikin Hospital Bandung

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Background: Mental, emotional, and behavioral disorder have a negative impact in adolescent. This study aims to evaluate mental, emotional, and behavioral disorders with PSC-17 questionnaire in adolescent patient at Hasan Sadikin Hospital Bandung.

Methodology : A cross sectional observational analytic study was conducted to identify and assess mental, emotional, and behavioral disorders profile of adolescent. Subject of this study includes adolescent with age range of 10 to 18 years. Pediatric symptom checklist is a used in the screening of mental, emotional, and behavioral disorders.

Results : A total of 101 data of patients were obtained. The number of patients with psychosocial disorders was 29 people (28.7%). The age group that has the highest number of psychosocial disorders was between 13-15 years old (44.8%). The number of female patients who experienced psychosocial disorders was 20 people (69%). The value of p = 0.013 was obtained from the Chi-square test for the sex variable. Among those that has psychosocial disorders, the number of stunted 12 people (16.7%), normal nutritional status 45 people (62.5%), and severely malnourished 9 (12.5%). An alternative Fisher's Exact test was carried out, obtaining a value of p = 1,000 for the stunting variable and p = 0.992 for the nutritional status variable.

Conclusion : There is a correlation between gender and mental, emotional, and behavioral disorders. However, there were no statistically significant differences in the variables Age, Illness, Stunting and Nutritional Status in the group.
Keyword : PSC 17, adolescent, screening

MISCL-2-04

Sturge Weber Syndrome In 1 Year Old Male : A Case Report

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Background: Sturge Weber Syndrome (SWS) is a neurocutaneous syndrome characterized by angiomas involving leptomeningeal, face, and choroid. Seizures are usually the first neurological manifestation, another sign are port wine stain, glaucoma, and presence of intellectual disability. Etiology by mutations in Guanine Nucleotide Binding Protein Q (GNAQ) in chromosome 9. Prevalence 1 in 20,000-50,000 live, equal ratio between males and females.

Case: We report a Case of 1 year old male with port wine stain on left side face since birth. Patient had seizures, occurring on both hands and feet with two to three minutes duration, frequency was five times, calm down and sleep after the seizure. In physical examination we not found meningeal or pathological reflex, in ophthalmological examination we found increase of intraocular pressure in left eye. Patient has global developmental delay with mild hypofunction during EEG. Patient have been treated with comprehensive management involving neuropediatric, ophthalmology, social and development, metabolic and nutrition, medical rehabilitation, and radiology.

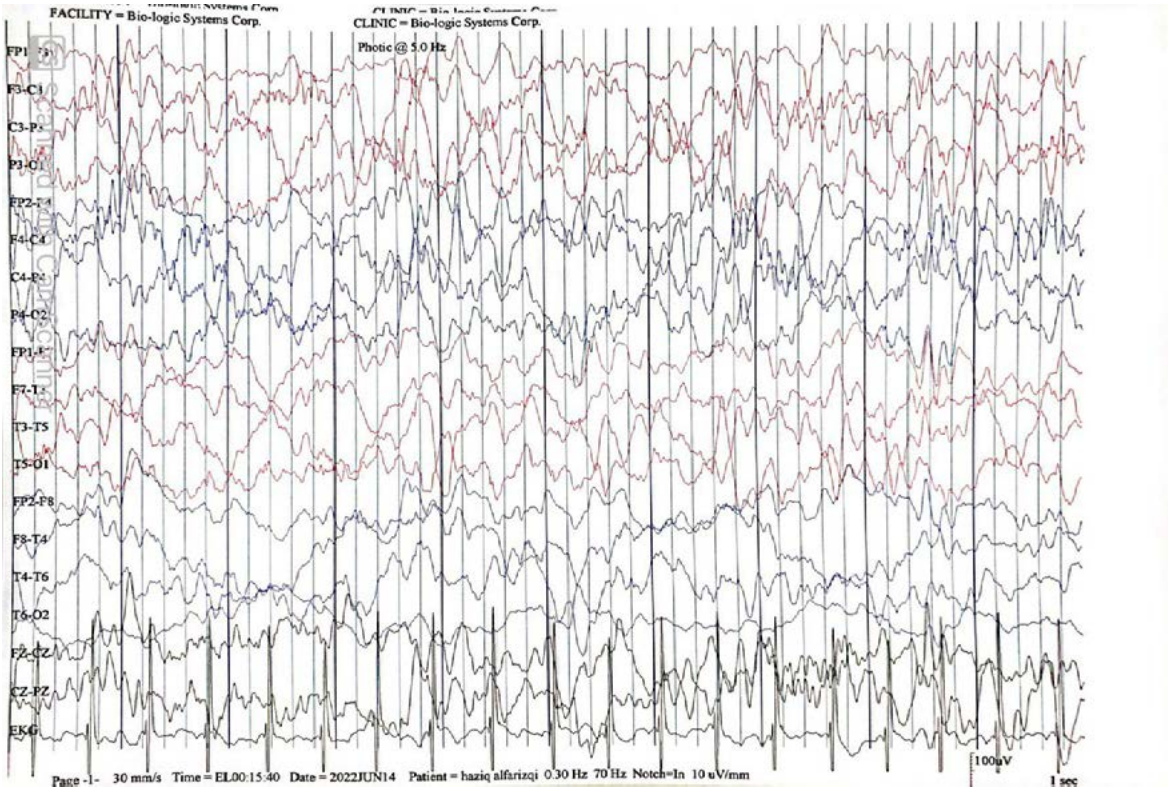
Conclusion: SWS is unique Case and rarely found, there was minimal discussion about this Case. This Case requires ongoing and comprehensive treatment, involves multidisciplinary sciences considering of many complications that may occur in children. In this Case, we suggest periodic monitoring to prevent clinical worsening that may occur and give therapy to improving patient's quality of life.

Keywords : leptomeningeal angioma, neurocutaneous syndrome, sturge weber syndrome

APPENDIX

Patien's photo

EEG Examination



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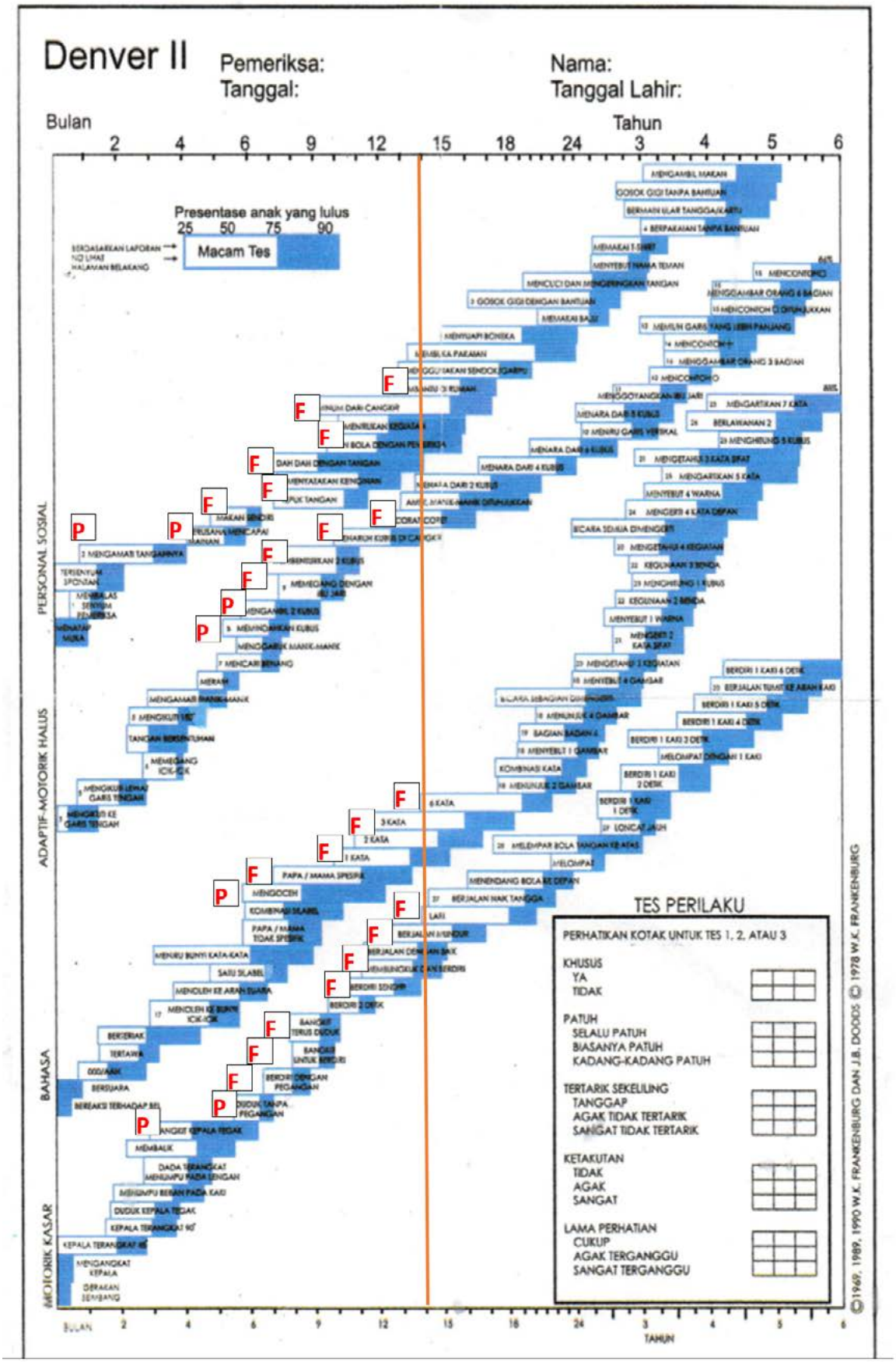
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MISCL 44

A Case Report of A Newborn with Short Stature and Macrocephaly

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Objective: Short stature is one of the most common growth problems in children which could be normal or abnormal variants. Abnormal variants are commonly associated with other clinical pathology. In newborns with short stature, other anthropometric measurements must be thoroughly evaluated because it guides the approach to diagnosis. There are some differential diagnoses of short stature and macrocephaly, such as Achondroplasia, Hypochondroplasia, Ellis-van Creveld syndrome, Silver-Russel syndrome or Thanatophoric dysplasia. Herein, we report a Case of Achondroplasia in a newborn.

Case: The Case is a term baby girl delivered at 38 weeks of gestation via caesarean section from a primigravida mother. The baby cried immediately after birth, with a good APGAR score. She had short stature and macrocephaly. On clinical examination revealed height less than 3rd percentile and head circumference more than 97th percentile. The head showed large with frontal bossing, depressed nasal bridge, and midface hypoplasia. Thorax and abdomen were normal. Upper extremities and lower extremities showed acromelic limb shortening with short stubby fingers and disproportionate lower short limbs. X-ray findings showed bilateral elbow joint subluxation and bilateral genu dislocation. Transcranial ultrasound shows mild ventriculomegaly. Based on typical clinical findings, the patient was diagnosed with Achondroplasia.

Conclusion: Early identification and diagnosis of short stature are crucial for early management and follow up hence improving the care and the quality of life.

Keywords: Short stature, Macrocephaly, Achondroplasia

MISCL 62

Successful Pyridostigmine Treatment in Neurotoxic Snake Bite

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Background: Snake bites remain a public health problem is an often neglected, a life-threatening emergency that occurs in tropical country, such as Indonesia. The annual incidence rate around 135,000 Cases in last 10 years reported by the *Indonesian Toxinology Society* with 10% mortality rate per year. We determined from bite marks and symptoms to ensure the bite caused by a venomous snake. Clinical manifestations of snake bites vary in severity, ranging from mild to severe symptoms.

Case: A 16 years old boy, came with complaints of difficult to open eyes followed by decreased of consciousness, ptosis, tetraparese, and respiratory failure, after bitten by a black white striped snake suspicious *Bungarus sp* 3 hours before. There were no active bleeding, bruising, or seizure. We intubated the patient and started polyvalent antivenom serum and 60 mg pyridostigmine orally every 6 hours and 0,6 mg atropine intravenously if bradycardia found. On the 5th day the patient was extubated, followed with returned gradually motor function over the next 4 days, and discharged with improvement.

Conclusion: Snake bites have potential cause of death and serious complications. Neurotoxic snake bite carries good prognosis if treated properly. Pyridostigmine has proven to be an effective therapy in addition to other supportive treatments.

Keywords: Neurotoxic Envenoming, Pyridostigmine, Snake Bites

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Radiological Finding in Peripheral Precocious Puberty; A Case Report

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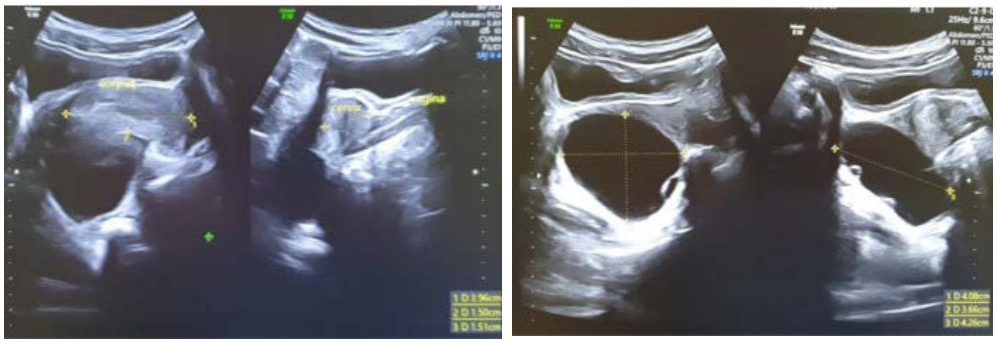
Background: Precocious puberty is a condition of early onset and secondary sexual characteristics development in children. Precocious puberty classifies into two major categories based on the etiology; Central precocious puberty (GnRH dependent) and Peripheral precocious puberty (GnRH independent). Blood hormone examination can help to distinguish between those two, but not all laboratory have the facility to do so. In some Cases, simple radiologic examination can help to distinguish between those two.

Case: Patient 5 years old come to endocrinology outpatient clinic with chief complain blood spotting since 1 day before admission. Initially, mucus came out in a small amount, red spots, said to come out of the genitals. Breast growing since 2 months before admission. No hair growth, acne, stomach pain, nausea, vomiting, or fever. The patient was diagnosed as precocious puberty and were planned to do blood work, bone age examination and internal genitalia ultrasound to confirm the diagnosis. The internal genitalia ultrasound show a pubertal phase uterus (corpus: cervices 2:1) and cystic lesion in the lateroposterior right uterus with multiple daughter cyst on the wall that correlate to peripheral precocious puberty.

Conclusion: In precocious puberty, ultrasonography can help to diagnose in two ways. First, to confirm is it truly a precocious puberty which can identified by measuring uterine length, fundal corpus ratio, uterine volume, and ovarian volume. Second, to evaluate is there any radiological finding in the uterus that suggesting a peripheral precocious puberty.

Keywords: daughter cyst, genitalia ultrasound, peripheral precocious puberty



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Neglected child of medical aspect, a case report

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Objective: Neglect is defined as any form of failure to perform its obligations and responsibilities in the family according to provisions of the law. One factors that can lead to child neglect is economic factor. Many children are abandoned by their parents due to poverty and the economic burden they bear, but this cannot justify child neglect.

Case: A nine years old child was admitted to Emergency ward Hasan Sadikin Hospital on 18 May 2023 with complaints of shortness of breath and look paler which was realized in the last 1 week accompanied by weakness. Complaints accompanied by decreased of urination ,when the catheter was installed, there was pus and blood in urinary tube. The patient has not been able to hold urine since childhood and always use diapers. The patient is the 4th child, Mother was unaware of the patient's pregnancy, at that time mother was suffering from diabetes, leprosy, and hypertension. Mother realizes his pregnant at 7 months and often took medical and herbal medicines during pregnancy, since 8 month old the patient was taken care of by the father until the age of 2 years, patient was taken care of by his aunt. The patient's posture is slightly hunched, and has different a leg shape with normal children .Patient often feel inferior because of his small body and cannot hold urine.

Conclusion: Neglect is closely associated with low education and low income, it's important to discover how best to distinguish neglect by parents from deprivation through poverty

Keywords: Neglect, Parents, Poverty

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The Relationship History of Maternal Chronic Energy Deficiency and Incidence of Children with Stunting in Panunggangan Public Health Center, Tangerang City

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Background: Stunting is measured by a height-for-age z-score of more than 2 standard deviations below the World Health Organization (WHO) Child Growth Standards median. Child stunting can happen in the first 1000 days after conception and is related to many factors, including maternal nutritional status. Good maternal nutrition can help ensure prevent low birth weight baby and stunting. This study aims to determine the relationship history of maternal chronic energy deficiency and incidence of children with stunting in Panunggangan Publich Health Center, Tangerang City.

Methodology: A cross-sectional study was conducted at Panunggangan Public Health Center, Tangerang City in July 2023. The population in this study was a child aged 13-60 months with the total 50 samples selected by purposive sampling. The data was collected by using the questionnaire about mother's pregnancy history, birth history, and child anthropometry. *Chi-Square Test* was used as data analysis.

Results: A total 50 children and mothers were studied with the mother's characteristics: aged in 21-30 years (52%), high school (80%), have no chronic energy deficiency history (76%) and with chronic energy deficiency (24%), 37-39 weeks gestation (74%). The children's characteristics: male (26%), normal birth weight (44%), children with stunting (33%). This study showed statistically significant corelation between chronic deficiency history and children with stunting ($p = 0.031$, $p < 0.05$).

Conclusion: Mother with a chronic energy deficiency history is one of risk factors for the incidence of children with stunting. Therefore, health workers should be monitoring the maternal nutritional status during pregnancy and improving the child's nutrition to preventing stunting in children.

Keywords: Maternal Chronic Energy Deficiency; Stunting

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