Results Nighty-seven subjects completed this study, and 33 (34%) had active physician-diagnosed eczema at 12 months. Twenty-six out of 81 (32%) subjects showed positive in SPT. Eighteen was classified as atopic eczema patients, while 12 were classified as non-atopic eczema patients. During the study period in total 297 skin swab samples were collected. Alpha diversity represented by Shannon ($p=0.001$) and Simpson ($p=0.004$) indices significantly increased from 1 month to 6 months age, and beta diversity ($p=0.001$) differed across time as well. Relative abundance of *Staphylococcus* ($p<0.001$ and 0.04 respectively) and *Corynebacterium* ($p<0.001$ and <0.001 respectively) progressively decreased across time (adjusted p -value: 1 month to 6 months vs 6 months to 12 months). Alpha diversity of skin microbiome at 12 months was significantly lower in atopic eczema patients than that in non-atopic eczema patients (Shannon $p=0.002$, Simpson $p=0.001$). Alpha diversity at 1 month and 6 months did not show significant differences among groups. Differences regarding beta diversity and taxa abundance were not found between atopic and non-atopic eczema patients across time.

Conclusions Skin microbiome profiles differ slightly between infantile eczema with and without atopy. Alpha diversity of skin microbiota at left antecubital fossa is lower in atopic eczema patients compared with that of non-atopic eczema patients only during flare-ups at 12 months. This study cannot detect such difference at earlier time points.

369 KNOWLEDGE AND AWARENESS OF AUTISM SPECTRUM DISORDER AMONG PAEDIATRICIANS AND PRIMARY HEALTHCARE PROFESSIONALS IN SINGAPORE

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Background Autism Spectrum Disorder (ASD) is on the rise globally and is the leading cause of disease burden in children between the ages of 0 and 14 years in Singapore. Early identification of ASD is vital for timely referrals to specialists for early intervention which confers a better prognosis. Barriers that contribute to the delayed diagnosis of ASD include inadequate knowledge and inaccurate beliefs about ASD among healthcare professionals. Surveys on ASD awareness among medical professionals date back to the 1980s and have shown that ASD is an often-misunderstood condition with misperceptions about clinical features prognosis, and management.

Objectives This study aims to evaluate the awareness of ASD among Paediatricians and other healthcare professionals in Singapore, and to identify gaps in their knowledge that could impede early diagnosis and intervention for ASD.

Methods Healthcare professionals from various institutions were recruited to participate in this study. A survey was conducted online via Google Forms and comprised questions on demographic information, perception and knowledge of ASD.

Results Of 181 healthcare professionals who completed the survey, 89% worked with preschool children regularly. Yet only 43.7% felt confident in identifying signs of ASD, and only 27.1% had undergone previous training on ASD. Only 8.3% correctly identified all four early warning signs of ASD. Although 97.2% felt it was necessary to refer children with suspected ASD to specialists, only 49.7% would refer immediately, with 31.5% still practicing a 'watch and wait' approach.

Some professional groups were more likely to believe in alternative therapies for ASD than others.

Conclusions Results of study show that many Paediatricians and primary healthcare professionals in Singapore still lack the ability to correctly identify early warning signs of ASD. Furthermore, misconceptions about 'outgrowing ASD' along with the misunderstandings on the communicative and cognitive abilities of children with ASD seem little different from earlier surveys dating back to the 1980s. In addition, more than half (73%) of our survey respondents had not received prior training on ASD, which could explain the gap in knowledge of ASD. In order to bridge the gap in knowledge and to raise awareness of ASD among healthcare professionals, more clinical forums and workshops should be held. Keeping abreast with child development and common neurodevelopmental disorders should be an important part of our Continued Medical Education (CME) efforts as members of the healthcare community here in Singapore.

370 CYTOKINE STORM IN PRETERM NEWBORNS, BORN TO COVID 19 POSITIVE MOTHERS, THEIR PRESENTATIONS, MANAGEMENT AND OUTCOMES IN A TERTIARY CARE CENTRE IN GUWAHATI

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Background Novel corona virus disease is caused by SARS-COV-2 virus. The consequences of this disease is largely unknown in neonates, specifically in Preterm newborns. Though Cytokine storm is an extremely dangerous event, it is treatable if diagnosed in proper time.

Objectives Our aim of the study is to discuss the events that the two newborn babies born to covid 19 positive mothers, went through during their cytokine storm due to transplacentally transferred covid IgG ; their treatment and outcome.

Methods Two Preterm newborn babies- one of them was very low birth weight (VLBW) baby (birth weight 1.25 kg), delivered at 32 weeks in November 2020 to a covid 19 (RT-PCR) positive mother with preeclampsia and PROM; and another appropriate for gestational age (AGA) baby (birth weight 2.5 kg) born at 33 weeks in December 2020 to a mother who was covid RT-PCR positive at 2nd trimester of pregnancy with GDM and PROM more than 24 hrs are discussed here.

The 1st baby had severe birth asphyxia, MSL and respiratory distress soon after birth with SPO₂ in room air was 70%-80%. She was treated with nasal prong CPAP with PEEP 5, iv antibiotics, caffeine citrate, iv fluid and supportives. All Blood reports were within normal limit and blood C/S showed no growth and covid RT-PCR was negative. At day 3 of life baby started having frequent episodes of apnoea, desaturation, tachycardia and shallow breathing. As the mother was covid 19 positive; inflammatory markers were checked which revealed IL6-4318 pg/ml, d Dimer -1450, Ferritin-514.6 ng/ml, LDH-687, procalcitonin >100 ng/ml, Trop I-119.9 ng/L, NTproBNP-1008, platelet counts- $55 \times 10^3/\mu\text{L}$, PT-18.0 secs INR-1.341, APTT-48.9 secs and covid IgG- 3.48 with B/L opacity on CXRay. The mother also found to have covid IgG -3.48 at the same time. Accordingly iv steroids and IVIg was started along with SC LMWH. The child responded to treatment well and started tolerating feeds and gaining weight.

The 2nd baby had grunting, and respiratory distress soon after birth. She was admitted in NICU and started with iv fluid, iv antibiotics and O₂ through nasal prong. Investigations revealed covid 19 RT-PCR negative but covid 19 IgG-7.89, IL6-184.0 pg/ml, D Dimer - 919, LDH-593, Trop-I- 155.1 ng/L, NTproBNP-567.1, procalcitonin- 0.866 ng/ml with B/L haziness on CXRay. The mother also had covid IgG -7.89. The baby was treated with IVIg, SC LMWH, and supportives. The baby responded to treatment well and discharged.

Results Both the babies responded well to IVIg, iv antibiotics and supportives. We have use iv dexona in 1st case.

On follow up all the laboratory parameters of the 1st baby was normal and she was gaining weight. The 2nd baby was on LMWH as her d Dimer, APTT and covid IgG were high. Clinically she is asymptomatic, feeding well and gaining weight.

Conclusions Though cytokine storm is dangerous consequence of covid 19 in Preterm newborns timely diagnosis and appropriate treatment can reduce the morbidity and mortality of the disease.

372 USAGE OF HIGH FLOW NASAL CANNULA IN PAEDIATRIC PATIENTS OUTSIDE ICU SETTING

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Background High-flow nasal cannula (HFNC) is a non-invasive positive pressure ventilation which delivers adjustable mixture of heated and humidified air and oxygen at rates that exceed spontaneous inspiratory flow. It's easy to initiate, relatively safe, and usually well tolerated by children (1). A lot of studies have suggested that HFNC may reduce the work of breathing (1). Early initiation of HFNC has been associated with reduced rate of endotracheal intubation.

Objectives This study aims to provide an overview of HFNC usage in paediatrics general ward setting, outside ICU setting.

Methods A retrospective study was carried out to evaluate the usage of HFNC in paediatric patients in HSIP general ward settings from April 2019 to March 2020.

Results A total of 177 children's record (boys: 112, girls: 65, age: 1 month to 12 years old) were analysed. A total of 112 patients were referral from district hospital, while 55 patients were referral from our emergency department.

From the analysis, we noted the age group of 12 to 24 months had the highest number of admissions requiring HFNC. Most of the patients were put on HFNC immediately upon admission to ward. The duration of its usage ranges from 2-4 days [interquartile range (IQR)], with median of 3 days. Length of hospital stay were 6 days (IQR: 4 to 8 days). Multiple linear regression analysis showed that duration of HFNC usage and delaying its initiation >6 hours were associated with significantly longer hospital stay (p-value <0.001).

Among the indications for the usage of HFNC, pneumonia is the main cause, followed by acute bronchiolitis, heart failure, sepsis and laryngomalacia. Almost one third (38%) of the patients that required HFNC had underlying disease(s), mainly respiratory disease. SpO₂ on arrival were mostly 96% (IQR: 92 to 99%). Respiratory rates were analysed according to age group as well.

The median white cell count (WCC) is $12.96 \times 10^3/\mu\text{L}$ (IQR: 9.67 to 17.27), while C-reactive protein (CRP) is 22 mg/L (IQR: 10.91 to 52.62). Linear regression was used to analyse the correlation between these two parameters, which showed that WCC and CRP are two independent variables.

Nasopharyngeal aspiration (NPA) for viruses sent yielded 24% positive culture. Among the viruses detected, RSV accounted for 66% of the positive culture.

As for outcome, 98% (N=174) of them recovered well while 3% (N=3) required escalation of therapy to BIPAP and intubation. Unfortunately, 3 patients succumbed to death in which one had severe malnourished and the other two patients with had congenital cyanotic heart with prolonged hospital stay. No major adverse effect was reported but 1 patient had minor burn on cheeks.

Conclusions HFNC is an excellent choice of NIV in providing respiratory support in district hospital with no or very limited intensive care unit. Our study showed that it is relatively safe to use with regular vital signs monitoring, with occasionally some patients requiring continuous SpO₂ monitoring. Detailed studies on its indication, safety protocol and cost effectiveness are needed to improve the outcome of patients.

375 HEPATOPATHY-THROMBOCYTOPENIA SYNDROME (HTS) AFTER ACTINOMYCIN-D THERAPY IN WILMS TUMOUR: A RARE COMPLICATION WITH FAVOURABLE OUTCOME

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Background Hepatopathy-thrombocytopenia syndrome (HTS) is characterized by fever, hepatopathy (hepatomegaly with abnormal liver function tests), ascites, weight gain, jaundice, and thrombocytopenia (platelet count less than $25 \times 10^3/\mu\text{L}$). The incidence is about 1.4% in a child with Wilms tumour receiving actinomycin D. Its mortality is 5-20%.

The mechanism is not well understood. Histopathological markers of HTS are obliteration of small hepatic venules and damage to endothelial cells

One of the prominent features of HTS is severe thrombocytopenia. It could be the first sign of detecting 'at risk child' of developing full-blown syndrome. Thrombocytopenia related to actinomycin D has been well documented.

Risk factors are younger age, administration of actinomycin D, radiotherapy, GSTM1-null genotype and MDR1 gene mutations.

Objectives To report a case of HTS post actinomycin D in a patient with underlying Wilms tumour.

Methods This is a case of a 4-year-old girl, newly diagnosed left Wilms tumour COG stage II, underwent left nephrectomy and started on weekly chemotherapy. Three days after she received her 3rd cycle of vincristine and actinomycin D, she crashed to emergency department in encephalopathic state with symptomatic hypoglycemia. Physical examination revealed hepatosplenomegaly and gross ascites but there was no jaundice. Her blood investigations showed low platelet count of $7 \times 10^3/\mu\text{L}$, severe transaminases AST 5381U/L, ALT 2035U/L, and coagulopathy but normal renal profile. Her serum ammonia was 125 $\mu\text{mol/L}$ with compensated metabolic acidosis. CT