Conclusion Massage therapy could be an effective adjuvant to PT in order to reduce the PT duration. However, it does not appear to reduce the requirement for PT.

GP238 SOCIO-DEMOGRAPHIC FACTORS RELATED TO PARENT ENGAGEMENT IN THE NEONATAL INTENSIVE CARE UNIT (NICU)

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Objectives To determine 1) socio-demographic factors related to parent engagement in the NICU, and 2) determine if the Supporting and Enhancing NICU Sensory Experiences (SENSE) program increased parent engagement.

Background Preterm birth results in significant health complications, necessitating infant hospitalization. This alters early sensory experiences which are further impacted by challenges parents face engaging in care¹. Parent participation in appropriate sensory activities can improve infant developmental outcomes².

Methods Sixty-four infants born ≤ 32 weeks gestation were randomized to SENSE or standard of care. SENSE included parent education and specific amounts of age-appropriate sensory exposures for parents to conduct each day of hospitalization. Bedside logs were used to record parent engagement in providing sensory exposures to their infants.

Results Being married ($p=0.02$) and having private insurance ($p=0.003$), a college degree ($p=0.046$) and fewer children ($p=0.02$) related to more parent engagement. The SENSE intervention was related to increased engagement for young mothers ($p<0.001$) and those living farther from the NICU ($p<0.001$) with trends toward more engagement among African-American parents ($p=.07$).

Conclusion Those with high social risk are less likely to engage in the NICU, but the SENSE program increased engagement among some high-risk groups.

GP239 CASE REPORT: AN IRISH MALE WITH BILATERAL FIBULAR APLASIA TIBIAL CAMPOMELIA AND OLIGOSYNDACTYLY (FATCO) SYNDROME

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Introduction FATCO (Fibular Aplasia, Tibial Campomelia and Oligosyndactyly) syndrome is a rare descriptive diagnosis first defined by Courtens et al. in 2005, who recognised a comparable pattern of malformations with his own case and 4 others described in the literature.¹ Aetiology remains unknown, however defects involved in *SHH* (Sonic hedgehog) gene expression have been proposed.²

Case description We report on a term male infant born with severe malformations. On examination, there was absence of the left radius and ulna, bilateral anterior angulation of

lower limbs with skin dimpling overlying. Both ankle joints were dysplastic and there was oligosyndactyly of both feet. Right upper limb was normal. X-rays of the limbs revealed dysplastic tibiae, absence of both fibulae, a right foot containing 3 ossified metatarsals with 2 formed digits, and a left foot with a single ossified metatarsal and two soft tissue digits with small bony elements. The infant had no other associated anomalies, and is developmentally appropriate at 1 year. Management included Symes amputation, prosthetics and following genetic referral, FATCO syndrome was suggested as the best fitting diagnosis. Whole genome sequencing of infants blood is currently being performed.

Discussion This is an important case to report as there are very few descriptions in the literature.¹⁻⁵ In keeping with the majority of reports, this case appears to be sporadic and development is normal.^{1,3,4} Our case is male, keeping with preponderance.^{1,3-5} Treatment aims at optimising functionality of limbs and stabilisations of joints.¹⁻⁵

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GP240 VITAMIN D SUFFICIENCY AND CYTOKINES LEVEL IN NEWBORNS BORN BY MOTHERS WITH OBESITY

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Introduction Presence of obesity in mothers negatively affects antenatal life and decreases the sufficiency of Vitamin D in newborns. Recently, cytokines role in the regulation of the condition of the immune system during the development and in the course of infectious diseases was actively studied.

Work objective Vitamin D and cytokines level (interleukin-1 β (IL-1 β), interleukin-6 (IL-6)) analysis in newborns, born by mothers with obesity.

Methods during the first 3 days of life a laboratory study of 78 newborns was conducted: 54 (69.2%) were born by mothers with obesity, control group (CG) – 24 (30.8%) children.

Results Mean gestational age of children, born by mothers with obesity – 37.7 ± 0.3 weeks, CG – 39.3 ± 0.2 weeks ($p<0.001$). Body weight of newborns – 3345.0 [2600.0–3980.0] grams and 3350.0 [3060.0–3785.0] grams respectively. In children of mothers with obesity the level of Vitamin D was 7.7 [4.0–14.5] ng/ml, which is 1.3 times

lower, than in the CG – 10.1 [7.4–16.6] ng/ml ($p>0.05$); IL-1 β content – 23.7 [12.4–45.6] pg/ml and 8.5 [3.3–46.0] pg/ml respectively ($p<0.05$); IL-6 level – 84.4 [49.6–194.6] pg/ml and 26.5 [11.2–79.2] pg/ml respectively ($p<0.001$). In women with obesity, 45 (83.3%) children were mature, 9 (16.7%) – premature. Mean gestational age of mature newborns – 38.4 ± 0.2 weeks, premature – 33.8 ± 0.6 weeks ($p<0.001$). Body weight of mature children was 3,680.0 [2,958.0–4,040.0] grams, premature – 2,000.0 [1525–2065] grams ($p<0.001$). Median level of 25(OH)D in mature newborns – 8.8 [4.0–14.6] ng/ml, in premature – 4.0 [3.9–4.5] ng/ml ($p<0.01$); IL-1 β – 20.4 [11.2–34.0] pg/ml and 38.1 [32.0–93.8] pg/ml respectively ($p<0.01$); IL-6 – 84.6 [56.6–166.8] pg/ml, versus 64.6 [32.0–161.6] pg/ml ($p>0.05$). In mothers with obesity, 14 (25.9%) newborns had intrauterine infection, calcidiol level was 6.4 [4.0–13.4] ng/ml; IL-1 β – 17.4 [9.2–23.9] pg/ml; IL-6 – 92.8 [45.6–190.6] pg/ml, which is 3.5 times higher, than in the CG ($p<0.01$).

Conclusions The vast majority of newborns, born by mothers with obesity, had hypovitaminosis D, these children also had conclusively high level of IL-1 β and IL-6. In newborns with intrauterine infection, IL-1 β and IL-6 content reaches the highest level versus the CG.

GP241 NEONATAL OUTCOMES FOR BABIES WITH EBSTEIN'S ANOMALY

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Introduction Ebstein's anomaly is a rare form of congenital heart disease (CHD), occurring in less than 1% of patients with CHD. With advances in Fetal Medicine and Cardiology, Ebstein's anomaly is being diagnosed antenatally. The literature highlights that it can be difficult to predict the prognosis particularly during the neonatal period. Our aim was to review the neonatal outcomes of babies with Ebstein's anomaly admitted to our tertiary neonatal intensive care unit (NICU).

Methods We retrospectively identified all babies admitted to the NICU with a documented diagnosis of Ebstein's anomaly between 01/04/2009 and 01/04/2018. Their outcome data was collected using electronic records (BadgerNet® and HeartSuite).

Results In the last 9 years, ten babies had a documented diagnosis of Ebstein's anomaly. Nine of these were antenatally diagnosed. Four were born prematurely (<37 weeks). Seven babies required resuscitation at birth and eight babies required intubation within the first 24 hours of life. Many of the babies had other significant co-morbidities including: hydrops fetalis, seizure activity, ventriculomegaly, trisomy 21 and persistent pulmonary hypertension (PPHN). Two babies also underwent therapeutic hypothermia. All of the babies born prematurely died within the neonatal period. Of the six term babies with Ebstein's anomaly, three were discharged home, two were transferred to the Regional Paediatric Cardiology unit and one died on the neonatal unit. The two babies that were transferred subsequently died at the Regional Paediatric Cardiology Unit. The three surviving infants continue to be followed up. One of these patients is

now seven years old and has not required any surgical intervention.

Conclusions In our experience, Ebstein's anomaly was fatal in babies born prematurely. The term babies had improved survival but even this was only 50%. The outcomes in the neonatal period can vary significantly for babies with this diagnosis as highlighted in our case series. Although the numbers are small due to the high mortality rates in this group, it is important that parents are counselled appropriately antenatally so that they are adequately prepared for the poor outlook of babies born with Ebstein's anomaly.

GP242 EARLY ONSET SEPSIS IN EXTRAMURAL HOSPITAL OF MYANMAR(BURMA)

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Introduction Early onset neonatal sepsis is the important cause of neonatal morbidity and mortality. Better understanding of early onset neonatal sepsis in outborn neonates is required for better management and prevention especially in developing countries.

Aim The aim of this study was to study the early onset neonatal sepsis in Yankin Children Hospital, an out born neonatal intensive care unit of Myanmar.

Methods In this hospital based cross-sectional descriptive study, ninety eight neonates with signs and symptoms of sepsis admitted within 72 hours of age were enrolled and after taking informed consent, blood samples for septic screen and blood culture were taken. Standard data collection form was used to collect all demographic data and clinical characteristics of neonates. Bacterial isolates were identified using BacT/ALERT system, and their resistance patterns were studied. Statistical analysis was done with SPSS version 16.0.

Results Ninety eight neonates with clinically suspected early onset sepsis were enrolled. Among them, 55 infants were diagnosed as early onset neonatal sepsis (56.1%) and these 55 infants were studied in this research. Pathogens were isolated in 22 infants (40%). PROM (45.5%), multiple vaginal examinations (60%), low birth weight (43.6%) and prematurity (49.1%), were common risk factors for early onset neonatal sepsis. Reduced feeding ability (92.7%) and respiratory distress (80%) were common clinical presentations. Blood culture was positive in 40% (22/55) of infants with early onset sepsis, respectively. *Staphylococcus aureus* (41%) and *Escherichia coli* (23%) were common organisms. Case fatality rate was 22% (12/55).

Conclusion *Staphylococcus aureus* was the commonest organism in infants with early onset neonatal sepsis in this study which highlighted that the antibiotics given in early onset sepsis should be effective to tackle that pathogen. The organisms isolated were resistant to commonly used antibiotics like penicillin and sensitive to antibiotics like levofloxacin, amikacin and imipenem. The mortality rate of early onset neonatal sepsis in the present study was 22% which was needed to be reduced by preventive strategies, early diagnosis and prompt and effective treatment.