and duration of stay. The data was recorded and analysed using Microsoft Excel and kept anonymous. After the first review, we applied the teaching sessions for the labour staff/midwives and also introduced the flyer/poster was displayed in theatres, postnatal wards, labour wards. Email sent to all staff at LGH and LRI Maternity units Results. There were 119 admissions between period 1 and 124 admissions between period 2. Temperature recordings within 30 minutes of admission to the Neonatal Unit was measured and documented for babies in first period as 99% and 100% in second period. 100% achievement of admission target temperatures between 36.5 – 37.50C were recorded as 81% and 86% for respective periods. There were 24 and 21 patients who had temperatures outside the limit. The majority of patients had temperature >36.5 as they have been admitted for sepsis treatment. Babies with hypothermia were >33 and <37 weeks gestational in 42% and 44% in reviews. 50% of babies were above 2.5 kg in period 2. For both periods, babies admitted with a temperature lower than 36.5 were treated for sepsis and they were admitted from labour ward and theatre.

Conclusion An excellent level of documentation compliance was observed.

With minimum intervention, normothermic admissions improved to 5%. There still remains room for improvement in areas to prevent hypothermia. The particular at-risk age group appears to be between 33-37 weeks and weight above 2.5 kg.

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CASE REPORT: CONGENITAL CHYLOTHORAX PRESENTING WITH SEVERE HYDROPS IN A LATE PRETERM NEONATE SUCCESSFULLY TREATED WITH OCTREOTIDE

Krešimir Šantić*, Darjan Kardum, Mirna Sipl, Dalibor Divković, Krešimir Ivaković, Andrijana Šantić. *University Hospital Centre Osijek*

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Fetal hydrops is an accumulation of fluid in more than one extravascular space. Congenital chylothorax is a rare cause of non-immune fetal hydrops, and the prognosis is generally very poor. There is no consensus on the optional treatment of congenital chylothorax. Conservative treatments (low-fat high-protein diets with medium-chain triglycerides, total parenteral nutrition) and surgical interventions are performed. There is mounting evidence for the use of octreotide (a somatostatin analog) in cases nonresponsive to conservative treatment, but no specific recommendation as to the dose and the length of therapy exist so far.

We report a male, late preterm newborn, with a birth weight of 3600 grams, born to a Caucasian 28-year-old secundigravida via cesarean section because of poor fetal biometric markers at 35 3/7 week gestation. Neonate was born with congenital chylothorax and severe non-immune hydrops. After the therapeutic failure of enteral low long-chain triglyceride formula and full parenteral nutrition in reducing chyle leak, the patient was treated with octreotide and shown rapid improvement. We conclude that octreotide treatment is a plausible therapeutic option before surgical treatment in patients with congenital chylothorax.

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A GRAVE AFFAIR-AN UNUSUAL CASE OF CONGENITAL THYROTOXICOSIS IN A PRETERM BABY CAUSED BY TRANSPLACENTAL PASSAGE OF MATERNAL THYROID STIMULATING HORMONE ANTIBODIES DURING PREGNANCY

S Parker*, S Rao, RMJ Anderson, WL Lee. *Colchester Hospital*

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Introduction Congenital hyperthyroidism is a rare disease that can affect infants born to mothers with Graves disease. Thyroid stimulating hormone receptor antibodies (TRAb) cross the placenta and can cause foetal and neonatal thyrotoxicosis.

This can have implications on foetal growth and may cause intra uterine growth restriction as well as cardiovascular complications such as foetal tachycardia. Postnatally signs of hyperthyroidism may include tachycardia, hypertension, irritability and poor weight gain. This case illustrates how high maternal TRAb led to foetal thyroid stimulation and thus foetal and neonatal thyrotoxicosis. It also demonstrates the difficulties encountered in managing the affected baby after birth.

Report Baby was born at 34+3 weeks. Maternal history of Graves disease for which mother underwent a thyroidectomy 5 years previously. She was on thyroxine replacement. Mother was euthyroid during pregnancy. Foetal tachycardia was noted from 20 weeks gestation and the thyroid gland showed increased vascularity on antenatal scans. Baby also had a VSD and mild ventriculomegaly.

During this time maternal TRAb was measured at >30 (upper normal range >0.4). Carbimazole was started at 26 weeks, resulting in improvement of foetal tachycardia.

Baby was born in good condition weighing 1540g (<2nd centile). After birth baby was constantly jittery, irritable and tachycardic. Initial TRAb was raised at 27.5 and TSH was <0.02. After liaising with a tertiary unit paediatric endocrine team, the baby was started on propranolol and then carbimazole. Symptoms of thyrotoxicosis improved after starting treatment and after 2 weeks baby was discharged from our neonatal unit. Thyroid function as well as TRAb were monitored closely and propranolol and then carbimazole were discontinued by 1 month. Baby has since needed thyroxine replacement therapy, and continues to be closely monitored and managed by the local paediatric team in close consultation with the tertiary paediatric endocrine unit.

Conclusion This is a rare case of fetal and neonatal thyrotoxicosis. It demonstrates that despite maternal treatment with thyroidectomy and the mother being euthyroid during pregnancy, transplacental passage of TRAb can cause thyrotoxicosis in the foetus and later on the neonate. Although such cases are rare they have a relatively high mortality and morbidity. It shows the significant implications on the baby's growth and cardiovascular compromise that may occur with thyrotoxicosis in the newborn. In addition it highlights the complex management of this group.

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INCIDENCE OF NEONATAL SEPSIS TREATED IN PICU, UNIVERSITY HOSPITAL OF SPLIT, CROATIA

Branka Polić*, Ivana Čović, Joško Markić, Tanja Kovačević, Tatjana Čatipović Arđalić, Julije Meštrović. *Department of Paediatrics, University Hospital of Split, Split, Croatia*

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Objective The main objective was to determine incidence of sepsis and outcome in neonates treated in the PICU, Department of Paediatrics, University Hospital of Split, Croatia.

Methods All neonates hospitalized in the period from 1st January 2003 to 31st December 2018 were included in the research. Medical documentation was examined and data were analysed using MedCalc (MedCalc Software Inc., Ostend, Belgium). The statistical methods used for the quantitative data were median, interquartile ranges and Mann-Whitney test. Qualitative data were analysed with χ^2 test. The results were interpreted at a significance level of $p < 0.05$.

Results Out of 771 treated neonates, 128 (16.6%) had sepsis. Early-onset sepsis was diagnosed in 59 (46%) and late-onset in 69 (54%) neonates. Median birth weight was 2255 g (range 630-5000 g), while 85 (66%) were male. There were 78.8% preterm neonates and 21.2% term neonates. The most common perinatal diagnoses were premature rupture of membranes (14.1%) and chorioamnionitis (10.9%). The most common reasons for hospital admission were intracranial hemorrhage (43.1%) and RDS (39.1%). Median of CRP value was 80.8 mg/L (range 1.2-382 mg/L). The values of procalcitonin were high in 88.5% patients, 32% of subjects had leucopenia and 42.6% of them had leucocytosis. Trombocytopenia was found in 63% of patients. Gram-negative bacteria were isolated in 31.2% of subjects and gram-positive bacteria in 28.2% of subjects. Fungi were isolated in 6.5% of subjects, and 5.6% had more than one bacteria isolated (out of 3 hemocultures). The lumbar puncture was positive for meningitis in 12 patients (9.38%). The majority of patients (78%) were on invasive ventilation (SIMV, HFOV) as a part of treatment and median of length of invasive ventilation was 9 days (range 1-140). Median length of hospitalisation was 19 days (range 9-108). Out of a total number of patients, 23% died. The mortality rate in early-onset sepsis group was 27% and in late-onset sepsis group 19%.

Conclusion The relatively high mortality in neonates with sepsis could be explained by the fact that the most seriously ill newborns from the general hospitals of the Dalmatia region are treated in our PICU. The values of CRP, length of invasive ventilation and length of hospitalisation had a statistically significant effect regarding the type of sepsis (early-onset or late-onset sepsis). It is important to recognize and treat neonatal sepsis in a timely manner in order to reduce the mortality rate as well as potential long-term consequences.

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EARLY NEONATAL HEALTH CARE OUTCOMES IN UNIVERSITY HOSPITALS AND UNIVERSITY HOSPITAL CENTERS VS. OTHER HEALTH INSTITUTIONS IN CROATIA

Boris Filipović-Grčić*, Željka Draušnik, Ureljia Rodin, Ivan Cerovečki, Ruža Grizelj, Dorotea Ninković, Nada Sindićić Dessardo, Darjan Kardum. *University Hospital Center Zagreb, University of Zagreb School of Medicine*

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To compare early neonatal health care outcomes in university hospitals (including university hospital centers) with outcomes in other health institutions in Croatia.

An observational retrospective study of childbirth data from National Medical Birth Database was conducted. Outcomes (early neonatal mortality or survival rate) of all neonates of gestational age < 32 completed weeks in the period 2009-2018 were studied with regard to birth settings (university

hospitals and university hospital centers vs. other health institutions).

The statistical significance of differences in average early neonatal mortality rates (ENM) was determined.

In the period 2009-2018 there were 1,282 live-born children of gestational age 22-27 completed weeks in Croatia. Most (84.8%) were born in university hospitals (rate increasing over the studied period) and the rest (15.2%) in other health institutions. The respective average birth rates were 5.0/1,000 live births in university hospitals and 1.1/1,000 live births in other hospitals, with minor oscillations throughout the studied period (university hospitals: 4.0-6.3; other hospitals: 0.5-1.5). The average ENM rate in this gestational group was statistically significantly higher among neonates born in other hospitals (565.7/1,000 live births) compared to those born in university hospitals (373.7/1,000 live births), $\chi^2 = 25.316$, $P < 0.0001$. Out of

2,148 live-born children of the gestational age 28-31 completed weeks most were born (87.8%) in university hospitals and the rest (12.3%) in other hospitals. The respective average birth rates were 8.6/1,000 in university hospitals (with an intermittently increasing rate) and 1.5/1,000 live births in other hospitals. The average ENM rate in this gestational group was higher in other hospitals (91.2/1,000 live births) compared to university hospitals (62.0/1,000 live births), but with no statistically significant difference; $\chi^2 = 3.220$, $P = 0.0727$.

The ENM rate in children of gestational age 22-27 completed weeks is higher in other hospitals than in university hospitals. Furthermore, the proportion of these children born in university hospitals in Croatia has increased over the studied 10-year period. As pre-term birth (before 32 weeks of gestation in particular) is closely related to perinatal outcome (i.e. high mortality or long-term impairment), analysis of their outcomes is important for planning and development of an appropriate neonatal intensive care unit network as well as to improve decision-making processes in health politics.

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POSTOPERATIVE COMPLICATIONS AND THEIR PREDICTORS IN NICU PATIENTS WITH SURGICAL DIAGNOSIS

Mirna Sipl*, Dalibor Divković, Ivana Sarić. *University Hospital Centre Osijek, Clinic of Pediatrics, Neonatology Department*

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To investigate the incidence, type, severity and time of occurrence of various postoperative complications in NICU patients undergoing surgery under general anesthesia and to determine the preoperative, intraoperative and postoperative risk factors which can predict their appearance.

We retrospectively analyzed the postoperative complications which occurred in neonatal/preterm patients with congenital or acquired surgical condition and whose surgery under general anesthesia was performed during hospitalisation in tertiary level NICU centre Osijek during five years period from January 2015 to December 2019.

Patients with congenital diaphragmatic hernia, esophageal atresia and congenital heart disease were excluded because they were for treatment transported in higher, level IV NICU Centre, Zagreb.