two groups. Proportion of infants with CSA, between the SEVEN and THIRTYFOUR groups were similar (15% vs 13% respectively), OR 0.87; 95% CI (0.31–2.43). As a whole, the risk of CSA recurrence was high in the subgroup of 26–29 weeks, 14/53 (26.4%) and in infants with moderate-severe RDS (16/77, 21%). On the other hand, in babies of gestation more than 29 weeks and those with minimal RDS, risk of CSA was negligible, irrespective of protocol used to stop caffeine. Total duration of caffeine was lesser (19.5 vs 33 days), and could be stopped earlier (33 vs 34 weeks PMA) in SEVEN compared to THIRTYFOUR. Other secondary outcomes were not different between the groups.

Conclusions Recurrence of clinically significant apnea was not different among preterm babies who were treated with caffeine beyond 34 weeks and those whose caffeine was stopped after 1 week apnea free interval. The SEVEN-day protocol significantly reduced duration of therapy and allowed discontinuation at earlier postmenstrual age. Recurrence of apnea was less across both groups in babies >29 weeks gestation and who had mild RDS at birth.

G574(P) ABSTRACT WITHDRAWN

G575(P) NEONATAL T CELLS ACQUIRE BOTH PRO-INFLAMMATORY AND TOLERANT PHENOTYPES IN FIRST THREE WEEKS OF LIFE

^{1,2}G Toldi, ^{1,2}H Wood, ²R Powell, ^{1,3}A Ewer, ²P Moss. ¹Department of Neonatology, Birmingham Women's and Children's NHS FT, Birmingham, UK; ²Institute of Immunology and Immunotherapy, University of Birmingham, Birmingham, UK; ³Institute of Metabolism and Systems Research, University of Birmingham, Birmingham, UK

10.1136/archdischild-2020-rcpch.492

The neonatal immune system needs to rapidly adapt to environmental changes following delivery in order to fight pathogens and tolerate harmless antigens. The precise kinetics of these changes and the key cellular and soluble components of the immune system remain to be elucidated. We aimed to describe changes in the immune phenotype of neonates in the first 3 weeks of life following delivery.

We collected cord blood samples from 19 healthy, term neonates delivered by elective Caesarean sections. A pre-delivery maternal peripheral blood sample was also obtained. The neonates were re-sampled for peripheral blood at 3 weeks of age. Mononuclear cells were isolated from these samples and were measured on 2 flow cytometry panels consisting of a total of 20 intracellular and cell surface markers.

The proportion of IL-8-producing CD4 and CD8 cells was lower in maternal compared to neonatal samples. Intracellular IL-17 production of CD4 and CD8 cells increased by 3 weeks of age compared to cord blood. The proportion of Tregs (CD4+ CD25^{high} FoxP3+) increased by 3 weeks compared to cord blood, but remained lower in comparison to maternal samples. The proportion and cytotoxic activity (CD107a+) of CD8 cells, as well as the proportion of IFN-gamma-producing CD4 and CD8 cells were lower in neonatal compared to maternal samples. The proportion of HLA-DR+ and CD69+ T cells was also lower in neonatal compared to maternal samples.

While neonatal T cells maintain an IL-8 phenotype during the first 3 weeks of life, they also acquire an IL-17 phenotype, possibly contributing to their ability to fight infection. On the other hand, the proportion of Tregs also increase by 3 weeks of age, playing an important role in establishing tolerance towards harmless environmental antigens.

G576(P) SACROCOCYGEAL TERATOMA: PRENATAL DIAGNOSIS TO POST-SURGICAL FOLLOW UP

¹Y Negreskul, ²K Burnand, ³A Yulia, ¹M Sellwood, ³G Attilakos, ²P De Coppi, ¹S Mitra. ¹Neonatal Unit, University College Hospital, London, UK; ²Paediatric Surgery, Great Ormond Street Hospital, London, UK; ³Fetal Medicine Unit, University College Hospital, London, UK

10.1136/archdischild-2020-rcpch.493

Introduction Sacrococcygeal teratoma (SCT) is the most common neonatal tumour. Albeit perinatal and surgical complications have been extensively reported, the information regarding the natural history of SCT from prenatal diagnosis to post-surgical outcome beyond the neonatal period is limited. The aim of this study was to review the outcome in a cohort of newborn infants delivered over 15 years in a single tertiary centre in the UK following prenatal diagnosis to surgical resection and long-term follow-up.

Methods Newborn infants with a prenatal diagnosis of SCT and delivered between 2004 and 2018 were identified from the hospital records. Following initial stabilisation, infants were transferred to a local surgical centre. Medical records in both centres were reviewed retrospectively for demographic information, tumour characteristics, perinatal status, surgical details and post-surgical complications.

Results 19 cases of SCT were identified over 15 years (2.2:1 female-to-male ratio). Most were of Altman type II (68%) with mature histology (57.9%), mixed morphology (47%), and minimal or moderate vascularity (52.6%). No teratomas were malignant.

In utero complications included polyhydramnios (31.5%), high-output failure (26%) and bilateral hydronephrosis (10.5%). There was one perinatal death (related to immediate postnatal haemorrhage), however, no intrauterine demises or stillbirth noted.

Average gestation at delivery was 34+6 weeks. Majority were delivered by elective C-section (58%). 52.6% of infants required support at birth which was associated more with male gender; larger, fast-growing and vascular tumours; presence of *in utero* complications, pre-term delivery and emergency C-section.

The commonest surgical approach was prone (83%) with coccygectomy reported in 87.5%. 12.5% of cases were complicated by tumour spillage and incomplete resection. No recurrences noted. Long-term surgical complications were common and included gastrointestinal (62.5%), urological (37.5%), local (31%) and neurological/gait (18.8%). Surgical complications were higher with male gender, higher birthweight, delayed prenatal detection, larger size, fast growth, immature histology, feeding vessels and a greater AFP half-life. Furthermore, surgical complications were more frequent with *in utero* interventions.

Conclusion Overall, SCTs had favourable prognosis with 95% survival rate. While poor condition at delivery was associated with known risk factors, long-term complications were not always predicted by early complications or poor condition at birth.