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Objectives: Invasive prenatal testing (IPT) by amniocentesis (AMN) and chorionic villus sampling (CVS) are still relative common procedures in centralised fetal diagnostic centres. Beyond safety and efficacy performance accomplished issues, pain perception is a usual concern for patients, may affect the final decision process. The aim of this study was to identify in our population if the number of annual IPTs per operator is associated to patients' pain perception.

Methods: In patients scheduled for IPT at our referral centre we prospectively determined the immediate pos procedure pain perception through an analogue pain perception scale 1 to 10. We analysed the association between reported pain perception and the annual number of procedures practiced by each of five operators. Statistical analysis was performed using Kruskal-Wallis and Mann–Whitney U test. A p-value of < 0.05 was considered statistically significant.

Results: 431 cases of IPT were practiced between 2018 and 2020. All procedures were performed by a close group of 5 operators. The pregnancy loss rate was 0.5 %. Patients perception of pain was statistically significantly higher when the operator realised less than 19 annual procedures and statistically significantly lower when the operator realised more than 52 annual procedures.

Conclusions: Based on our results a minimal annual number of procedures per operator may warrant a low patients pain perception score and we propose it as a new frontier for quality assessment.

VP25.09

Fetal intervention with international collaboration, administrative support and social services to the rescue of an unborn fetus

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The Rh blood group system is known to cause hemolytic disease of fetus and newborn. We report a rare case (1st reported case in India) of successful outcome of HDFN due to anti Rh 17 in a woman with D-phenotype which is characterised by the absence of C, c, E, e antigens and overexpression of D antigens. Previously there are only 18 reported cases of Rh D-- in pregnancy, out of which, 8 had successful outcomes. The woman first presented during her 6th pregnancy at 23 weeks of gestation with fetal hydrops and severe maternal anemia. Her blood was incompatible with all blood groups. Workup for rare blood groups (Bristol laboratory, UK) confirmed this Anti Rh 17(D--). She received plasmapheresis and delivered a macerated hydropic baby. She had previous four had intra-uterine demises at 28–36 weeks. In current pregnancy, patient reported at 19 weeks with fetal anemia. She received two cycles of IVIG despite which the fetus developed hydrops at 21 weeks. Procuring this rare blood for intrauterine transfusion (IUT) was the biggest challenge for which international rare donor panel was contacted. Nearest compatible donors were identified in Japan. Even though blood was available free of cost, each instalment of transport costed around 2000 USD. With the help of hospital administration and medical social officers, funds were arranged. Appropriate import permits were taken. The patient received six IUTs. Steroids for lung maturity were given. At 31 weeks, the fetus developed non-reassuring non-stress test and a Caesarean section was done. Preoperative autologous blood transfusion was performed for the patient due to non-availability of blood for the mother. The baby received surfactant, one partial exchange transfusion and phototherapy. Baby was discharged on day 29.

This case was successfully managed with a close collaboration between fetal medicine, transfusion medicine and the neonatology team. Rare blood group registry should be established in developing countries.

VP26: FETAL NEUROSONOGRAPHY: VASCULAR

VP26.01

Vein of Galen aneurysmal malformation: recurrent diagnosis

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29-year-old patient, with no relevant history. Mid-trimester scan showed a high-output aneurysmal dilation of the vein of Galen with hemodynamic and neurological repercussions. Tetracameral cardiomegaly, pulsatility index of umbilical artery with absence of diastole and periventricular leukomalacia were detected. Termination of pregnancy was offered and accepted. After a normal course pregnancy and delivery of a healthy newborn, a follow-up ultrasound at week 28 showed moderate polyhydramnios and an intracranial vascular malformation. At week 30, diagnosis of a recurrent Vein of Galen aneurysmal malformation (VGAM) and mild cardiomegaly was made. Legal termination of pregnancy was performed. Analysis of the second fetal exome samples showed heterozygous mutations in the ACVRL1 gene (associated with pulmonary hypertension and autosomal dominant Rendu Osler Weber disease) and SMD9 gene (autosomal dominant hereditary pulmonary hypertension and cerebral arteriovenous malformations). Complete parental genetic study was recommended.

Postnatal outcome of AVG depends on hemodynamic repercussion and neurological damage. Serial controls should be planned, so as to monitor their evolution, fetal adaptation and wellbeing. It is important to inform parents about the poor fetal and neonatal prognosis if overloaded right heart, severe cardiomegaly, tricuspid regurgitation and/or neurological injury is present. The delivery at a tertiary care centre with doctors specialised in pediatric cardiology, neurosurgery and neuroradiology it is recommended.

Supporting information can be found in the online version of this abstract

VP26.02

Outcomes of fetal intracranial hemorrhage: a systematic review and meta-analysis

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Objectives: Fetal intracranial hemorrhage (ICH) is associated with increased risk of perinatal mortality and morbidity. Healthcare professionals often find it challenging to counsel parents due to its

rarity and diverse presentation. The aim of this systematic review and meta-analysis was to investigate the perinatal outcomes of fetuses with ICH.

Methods: Medline, Embase, Clinicaltrials.gov and Cochrane Library databases were searched. We included studies reporting the outcomes of fetuses with ICH. The primary outcome was perinatal death (PND), i.e. the sum of intra-uterine (IUD) and neonatal death (NND). The secondary outcomes were IUD, NND, TOP, need for surgery/shunting at birth, cerebral palsy, neurodevelopmental delay, and intact survival. Outcomes were explored in the whole population and for intra and extra-axial ICH. Meta-analyses of proportions were used to combine data, we reported pooled proportion and their 95% confidence intervals (CI).

Results: 16 studies (193 fetuses) were included. PND occurred in 14.6% (95%CI 7.3-24.0), of fetuses with ICH. Of those liveborn, 27.6% (95%CI 12.5- 45.9) required a shunt after birth and 32.0% (95%CI 22.2-42.6) had cerebral palsy. 16.7% of children had mild and 31.1% experienced severe neurodevelopmental delay. A normal outcome was reported in 53.6% fetuses. Looking at location, PND occurred in 13.3% (95%CI 5.7-23.4) of fetuses with intra-axial and in 26.7% (95%CI 5.3-56.8) with extra-axial bleeding. In cases with intra-axial hemorrhage, 24.7% required a shunt after birth and 27.1% had cerebral palsy. Mild and severe neurodevelopmental delay were observed in 15% (95%CI 6.9-25.6) and 32.3% (95%CI 19.7-46.3) of cases, respectively, while 51.9% experienced a normal outcome. Robust evidence for fetuses with extra-axial hemorrhage could not be extrapolated due to the small number of cases.

Conclusions: Fetuses with ICH are at high risk of perinatal morality and impaired neurodevelopmental outcome. Postnatal shunt placement was performed in 28% and cerebral palsy was diagnosed in approximately one third of these infants.

VP26.03
Early severe fetal intracranial hemorrhage: a diagnostic challenge

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39-year-old nullipara, blood type A Rh negative, was referred to our hospital due to increased nuchal translucency above 95th centile and hypoplastic nasal bones on first trimester ultrasound. No other anomalies were detected on this exam. Work up for trisomy 21, TORCH infections and echocardiogram were normal. Ultrasound at 20 weeks revealed a morphologically normal fetus except for an exuberant intracranial hyperechogenic image completely disrupting both cerebral hemispheres and midline structures, very suggestive of severe intracraneal hemorrhage. To further characterise this lesion, fetal MRI was requested and revealed hydranencephaly with extensive intracranial hemorrhage and secondary supra-tentorial parenchyma destruction, with preservation of thalami and posterior fossa structures. Prenatal counselling excluded drug exposure, abdominal trauma and infections. Assays for alloimmune thrombocytopenia and coagulation tests were performed. Upon the acknowledgement of the expected poor prognosis, the couple decided to terminate their pregnancy. Fetal and progenitor studies are in progress. The early onset of this hemorrhagic event and the extension of the cerebral lesions differ from most of the information reported in literature, which concludes that most of these event occur early in the third trimester. Such degree of fetal intracraneal hemorrhage accounts for a remarkable diagnostic challenge in establishing its underlying etiology enabling further prenatal counselling.

Supporting information can be found in the online version of this abstract

VP26.04
An unusual case of fetal cerebellar hemorrhage in a 23-week pregnancy

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Patient came for an anomaly scan at 23 weeks, Gravida II para I. The first child was 10 years of age and normal. An abdominal scan was done using a GE Voluson E10. The scan showed a unilateral echogenic lesion in the right cerebellum measuring about 12mm x 9mm, it was well defined, no other brain abnormality was seen. The left cerebellum appeared normal. Rest of the fetus was normal on scan, growth for gestation was adequate. A diagnosis of fetal cerebellar hemorrhage was considered. MRI revealed a hypointense area in the superior aspect of the right cerebellum, blooming artefacts and swan sequences were noted and the ultrasound diagnosis was confirmed. Patient was counselled and decided to terminate the pregnancy. Only a few well documented examples of prenatal cerebellar hemorrhages are available in literature. Incidence of prenatal unilateral cerebellar hemorrhage appears to be even more rare. Data regarding postnatal outcome of such children is scarce.

Supporting information can be found in the online version of this abstract

VP26.05
Prenatal diagnosis of fetal dural sinus thrombosis: a case report

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Fetal dural sinus thrombosis is a rare condition, with a prevalence of 1:200,000 livebirths. Conventionally, detailed 2D ultrasound examination, including neurosonography is used to make the initial diagnosis; however, a fetal brain MRI is necessary to confirm the diagnosis since the sonographic features mimic those of an intracranial tumour, and it is important to differentiate between those due to the implications on fetal prognosis. In this case the mother 27 years old arrived for a routine second trimester ultrasonography at 20.5 weeks. The 2D ultrasonography revealed a hyperechoic region in the posterior brain, at the trans-thalamic and supratentorial level of 2.2cmX1.6cmX1.0cm, negative to the Doppler examination. Image suggestive of Torcular Herophili sinus thrombosis No other abnormalities were appreciated (figure 1). A fetal MRI was done to confirm the diagnosis. Following scans were realised every four weeks to monitor the evolution of the lesion. Three days after birth another MRI was done revealing persistence of the trigeminal artery and thrombi, with partial circulation in the sinus. No other neurological alterations were identified at this point. There are few reported cases, and the postpartum prognosis is difficult to establish. However, in most of the cases there is a reduction in size or even completely resolves before birth. Further evidence is needed regarding long-term neurological consequences.

Supporting information can be found in the online version of this abstract