structures. A brief overview of the relevant early fetal development and complex etiology of this serious prenatal diagnosis provide further useful context for treating clinicians. We recommend these guidelines are updated to specify use of a curvilinear transducer (2-9 MHz) to image both orbits in the axial and coronal planes, aided by use of a trans-vaginal probe where the trans-abdominal approach is inadequate to generate these images. Where applicable, 3-D reverse face imaging should be obtained to aid the diagnosis. The presence, absence or non-visualisation of lenses and hyaloid arteries should be documented in reports and these cases referred for a tertiary level US scans. Imaging of the orbits should occur from 12 weeks gestation. MRI and amniocentesis with microarray testing provide useful information.

EP09.10
Obliteration of intracranial translucency: what next to do?

Role of 3D in optimising detection of open spina bifida

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Obliteration of intracranial translucency (IT) is an excellent marker for detecting open spina bifida (OSB) and inclusion of IT in routine screening has helped in its early detection. However, in the mid-sagittal view shadowing from facial bones and the palate makes evaluation of IT difficult. The spine has been normal in many cases in which IT has not been clearly visualised. This paper describes the additional planes and 3D techniques used in detecting 19 cases of OSB in first trimester.

In cases of non-visualisation of IT, the two steps needed are to confirm the Chiari malformation and to visualise the spinal defect. In OSB, there is leakage of CSF leading to obliteration of all ventricular cavities and caudal herniation of hindbrain. The fourth ventricle can be demonstrated in the prone position and a sagittal sweep in this position avoids shadowing from the facial bones. Usage of VCI further helps in depicting the absent fourth ventricle and herniation of the hindbrain. With the help of TUI, changes in axial sections of the brain (ie. expanded choroid plexus with collapsed third ventricle, non-visualisation of aqueduct of Sylvius, the parallel cerebral peduncles and obliteration of the fourth ventricle cisterna magna complex) can be visualised in a single planar format. Once the Chiari malformation is confirmed focus is on the spine to visualise the defect. The lack of ossification of the spine at 11-14 weeks often poses a difficulty for detection of OSB. The addition of VCI helps in delineation of the bony landmarks and HD live imaging can be used to demonstrate the skin defect.

This paper illustrates 3D evaluation of the normal and abnormal anatomy of brain and spine in OSB. Though the initial suspicion is always on 2D evaluation, multiplanar imaging gives more robust evidence in confirming OSB.

EP09.11
Prenatal cephalocentesis: revisit the issue

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Cephalocentesis is a procedure used to decompress the fetal head to allow vaginal birth in cases of severe cerebral ventriculomegaly. Historically the procedure is considered destructive and would almost always result in fetal death, hence its recommended to be reserved for cases with concurrent other major malformations or in cases with expected severe neurological damage.

We report two cases of prenatal transabdominal cephalocentesis. Both patients were primigravida who wished to have vaginal birth. The first patient had a fetus with thoracolumbar rachischisis and bilateral severe cerebral ventriculomegaly while the second patient had a fetus with severe alobar holoprosencephaly. For both patients fetal MRI results were concordant with the ultrasound findings and amniocentesis results came normal for chromosomes and microarray analysis. After being counselled by a multidisciplinary team both patients opted for transabdominal cephalocentesis; the procedure was performed at 36 weeks gestation, under ultrasound guidance through a single lateral cranial entry using 18 gauge needle. Total 420 ml and 620 ml of clear cerebrospinal fluid aspirated for the first and second fetus respectively. Both mothers had induced labour and underwent uneventful vaginal birth. Both infants survived beyond their neonatal period.

In conclusion, when vaginal birth is desirable, transabdominal cephalocentesis could be safely performed to prenatally facilitate vaginal birth. However, in addition to other fetal factors, the gestational age at which the procedure is performed and the method of performing cephalocentesis could play an important role in predicting fetal survival. Further studies are recommended.

EP09.12
Prenatal diagnosis of Vein of Galen aneurysm: a report of four cases

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We reported four cases of prenatal diagnosis of Vein of Galen aneurysm (VGA).

Case 1: Patient referred at 33 weeks of gestation. Ultrasound findings showed a 28x30x28 mm supra tentorial midline anechoic mass with turbulent flow at colour Doppler examination. Mild cardiomegaly, right atrial dilatation, and mild tricuspid insufficiency, without hydrops. Diagnosis of VGA was made. At 40 weeks newborn was delivered by Caesarean section. VGA diagnosis was confirmed. Newborn evolves with cardiac failure requiring diuretics and milrinone, with its resolution embolism therapy will be initiated.

Case 2: Patient was referred at 36 weeks of gestation. Ultrasound examination showed a 30 x 28 x 21 anechoic cranial image with venous flow at colour Doppler. Without cardiac failure. VGA diagnosis was made. Delivered at 38 weeks by Caesarean section and the VGA diagnosis confirmed. The patient was subject of embolism and died due severe secondary thrombocytopenia.

Case 3: Patient referred to our centre at 25+1 weeks gestation with cerebral mass diagnosis. Ultrasound examination showed a 28 x 17 x 30 mm central lesion with present Doppler flow. 3D revealed dilatation of the entire cerebral venous system. Diagnosis of VGA was made. Patient still pregnant.

Case 4: Patient was referred with a 32+6 week biconal biamniotic twin pregnancy. Ultrasound examination showed in A twin, multiple cystic cranial areas with blood flow presence and disorganised brain parenchyma. The fetus was hydropic and the functional cardiac evaluation evidence a heart failure at expense of right cavities.