

(EP06.13). First-trimester detection of anterior nasal encephalocele: a rare diagnostic challenge on early ultrasound

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Case Report : Anterior nasal encephalocele is an uncommon congenital anomaly characterized by herniation of intracranial contents through a defect in the skull base into the nasal region. Early prenatal diagnosis, particularly in the first trimester, remains challenging due to its rarity and subtle imaging features. We report the case of a 35 year old second gravida who presented for a routine first-trimester ultrasound at 12 weeks and 4 days of gestation. On mid-sagittal imaging iso to slightly echogenic lesion of size 1.5×0.7 cm seen within the nasopharynx and extending into the nasal cavity with an associated tiny cystic component measuring 9×4 mm identified between the tip of the nose and the upper lip (Fig 1). Further evaluation in multiple planes demonstrated that the lesion did not cause airway compression, and both the lips and palate appeared intact. Doppler revealed mild internal vascularity with few vessels seen arising from the internal cerebral artery (Fig 2). Based on imaging findings differential diagnoses included anterior nasal encephalocele, nasal dermoid, and haemangioma. After counselling patient opted for termination of pregnancy. Fetal autopsy revealed the left nostril and nasal cavity and nasopharynx filled with solid tissue (Fig 3). Lips and palate were intact. Microscopy revealed ectopic brain tissue seen adjacent to nasal cartilage confirming the diagnosis of anterior nasal encephalocele (Fig 4). Given its rarity, anterior nasal encephalocele should be considered in the differential diagnosis of nasal region masses detected in early gestation.

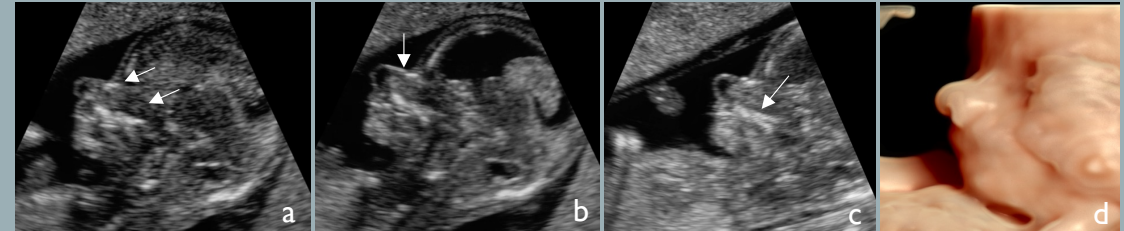


Fig1. Mid-sagittal section of Fetal face showing iso to echogenic lesion (arrows) seen within the nasopharynx and extending into the nasal cavity with associated cystic component (arrow) seen at the tip of the nose a,b. Underlying palate (arrow) is normal c. 3D shows prominent nose due to the cystic lesion d.

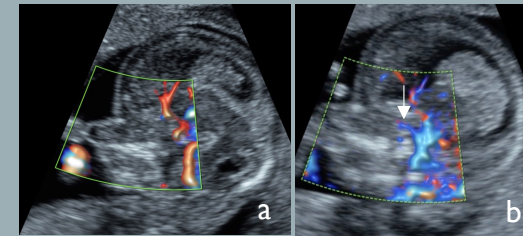


Fig 2. HD flow shows cerebral circulation with mild vascularity arising from the internal cerebral artery (arrow) appreciated within the mass a, b.

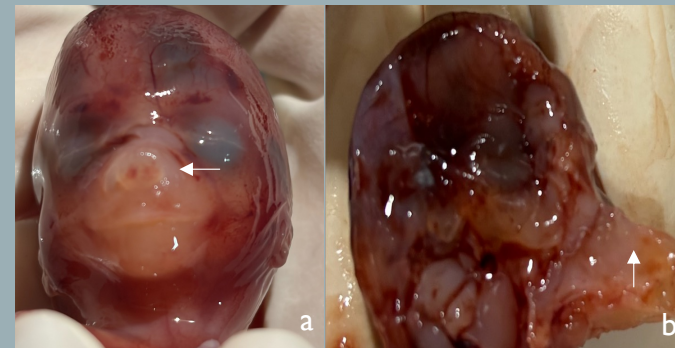


Fig3. Abortus showing obliterated left nasal cavity (arrow) and mass occupying the nasal cavity (arrow) a, b.

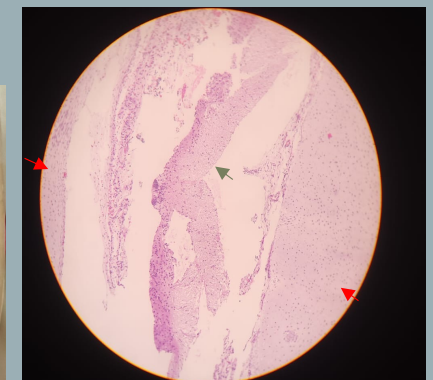


Fig 4. Microscopy shows ectopic brain tissue (green arrow) seen adjacent to nasal cartilage (red arrows)