A Rare Case of Large Nasopharyngeal Teratoma

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ABSTRACT

Congenital nasopharyngeal teratoma is a rare, germ cell tumour in newborns seen in the nose or throat. These can be life-threatening if they obstruct the airway or cause bleeding or infection. Treatment often involves surgery and may include chemotherapy or radiation therapy. Congenital germ cell tumours are uncommon, with the most common location being the sacrococcygeal region (incidence 1 in 4000). Head and neck teratomas (incidence 1 in 20000 - 40000) make up less than 10% of reported cases and nasopharyngeal teratomas are particularly rare. Preoperative CT scans and MRIs are helpful to rule out intracranial extension of the tumour. While most teratomas are benign, this case presents nasopharyngeal teratoma associated with severe birth asphyxia and bleeding with neonatal death.

Keywords: Nasopharyngeal Teratoma, Germ Cell Tumour, Birth Asphyxia, MRI Brain

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CASE PRESENTATION

A newborn female baby was delivered by caesarean section with a cystic and partially solid mass protruding through her mouth and right nostril, with severe birth asphyxia. The baby was intubated, transferred to the neonatal intensive care unit and put on a ventilator. Mother was referred from a local hospital with absent foetal movements. She previously had two caesarean sections and two healthy children. An antenatal scan at 32 weeks revealed severe polyhydramnios and the cystic and partially solid mass protruding from the baby's mouth and nostril. Baby's spo2 72% on ventilation with HR-90/minutes, APGAR-5/10@5minutes, mass with size 9x10 cm protruding from the mouth and right nostril with bleeding **(Figure1).** Head circumference was 31cm. A magnetic resonance imaging (MRI) of the brain, oral cavity, and paranasal sinus showed a poorly marginated soft tissue density mass

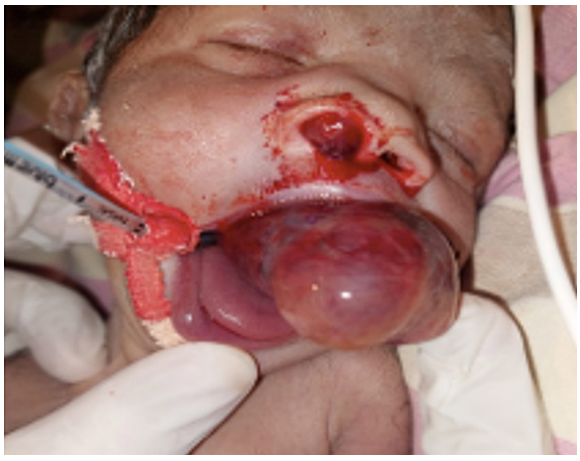

Figure 1. **Bleeding mass protruding from Right nostril and mouth**

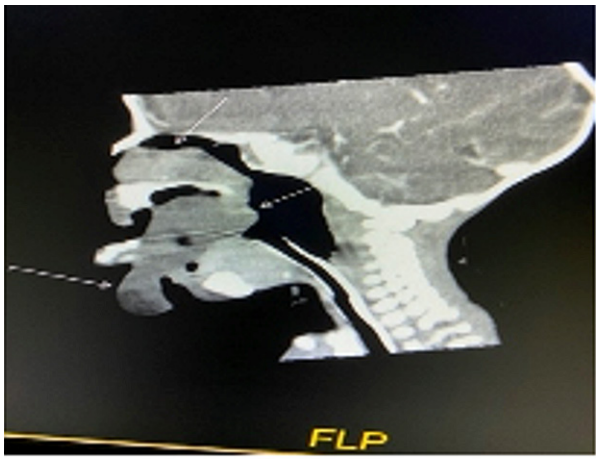

Figure 2. **MRI showing soft tissue mass arising from right ethmoid, extending to nasopharynx and oral cavity**

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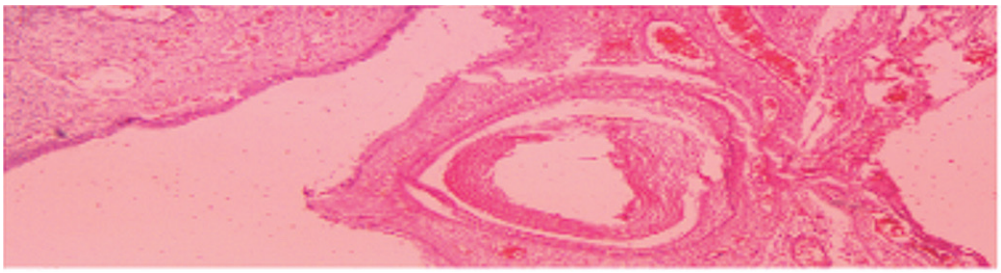

Figure 3. **Stratified benign squamous epithelium with lamella of keratin material**

arising from the right ethmoidal air cell region, with extension into the nasopharynx and oral cavity, but no intracranial extension **(Figure 2).** An echocardiogram showed severe left ventricular dysfunction. Multidisciplinary consultations, including cardiology, ENT, and paediatric surgery, were conducted. Surgical removal of the mass was planned, but the baby went into bradycardia and desaturation. Despite resuscitative measures, the patient died after 10 hours of life. The mass was excised post mortem sent for histopathological examination, which showed epithelial **(Figure 3 &4),** mesodermal **(Figure 5),** and endodermal **(Figure 6**) elements, confirming the diagnosis of nasopharyngeal teratoma.

DISCUSSION

Teratomas are rare congenital tumours that occur in 1 in 4,000 live births.[1] In children, these tumours are commonly found in the sacrococcygeal region, gonad and mediastinum, whereas the lesions are distinctly rare in the head and neck region and comprise only 1-10% cases.[2] Teratomas are benign tumours containing cells from ectodermal, mesodermal and endodermal layers. Histological classifications of teratomas include dermoid cysts (epithelial lined with skin elements, composed of ectodermal and mesodermal cells), teratoid cysts (made up of all three germ layers but poorly differentiated), true teratomas (made up of tissues or organs from all three germ layers), and epignathi (very rare oral tumours that contain foetal organs and limbs and have a high mortality rate).[2] Ours is a case of true teratoma. Teratomas are commonly diagnosed antenatally on ultrasonography, with larger ones usually associated with maternal polyhydramnios because they interfere with foetal swallowing. It leads to upper airway obstruction in the early period of life.[4] Other potential causes of neonatal oral masses that need to be ruled out include encephalocele, nasal glioma, embryonic congenital rhabdomyosarcoma, cystic lymphangioma of the mouth or nasopharynx. The mass effect of teratoma in the nasopharyngeal area can lead to difficult intubation and subsequent hypoxia. therefore, a multidisciplinary prenatal care and expert team familiar with problematic neonatal intubation present at the time of birth. Preoperative CT scans and MRIs are helpful to rule out intracranial extension of tumours.[2,5,6,7] Surgical management aims to remove the mass with healthy margins and provide a secure airway. Recurrences may occur if the tumour is not completely removed during surgery.

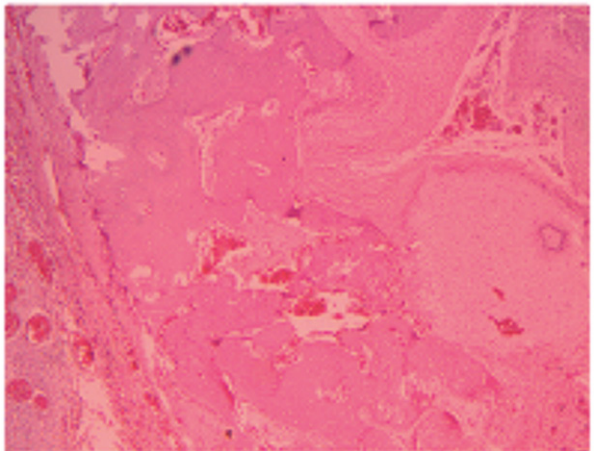

Figure 4. **Trabeculae of bony tissue with fragments of cartilage**

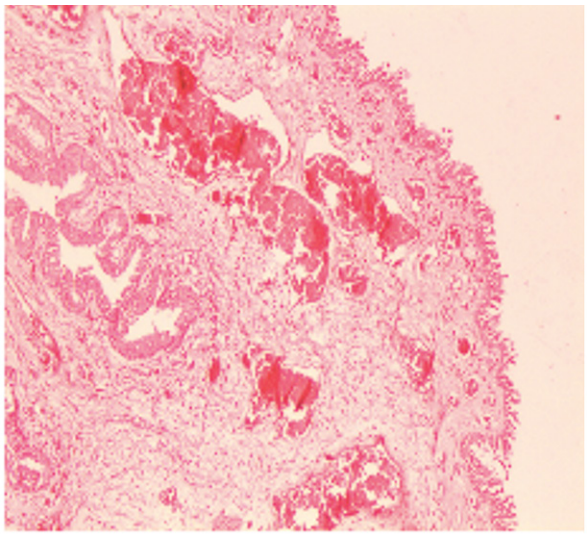

Figure 5. Mucinous glandular elements with lining of pseudostratified respiratory epithelium

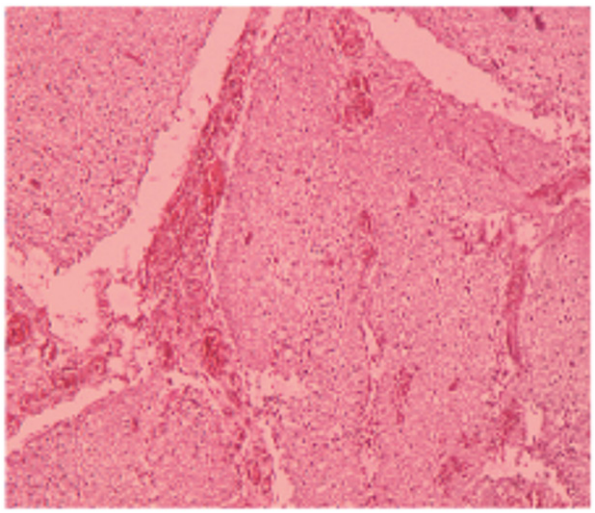

Figure 6. Lobules of mature neuroepithelial elements

END NOTE

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Conflict of Interest: None declared

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