

Oropharyngeal Teratoma: A Case Presentation and Review of Literature

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Abstract

Teratomas are true neoplasms derived from the three germ layers. They are relatively rare tumours. They present in the sacrococcygeal region, gonads and retroperitoneum commonly. We present the report of a 5-month-old infant who presented with a prolapsing oropharyngeal teratoma and literature review.

Keywords: Neoplasm, oropharyngeal, rare, respiratory distress, teratoma

INTRODUCTION

Teratomas are rare tumours which derive their structure from the three germinal cell layers. They are true neoplasms that contain tissues foreign to the site in which they arise. In the head-and-neck region, teratomas are relatively rare with an estimated incidence of 1/35000–1/200,000 live births and more common in females.^[1-3] Teratomas occur most commonly in the sacrococcygeal region, but they can arise anywhere in the body along the midline.^[4,5] Head-and-neck teratomas constitute 1%–9% of all teratomas.^[6] When they occur in the head-and-neck region, the cervical and nasopharynx are the most common sites of occurrence. Cervical and nasopharyngeal teratomas have a potential to cause airway obstruction. Most head-and-neck teratomas are incidental findings discovered on routine second-trimester ultrasonography and are usually associated with polyhydramnios in 40% of cases.^[7] The polyhydramnios is usually as a result of very large tumour mass which causes oesophageal compression, thereby preventing amniotic fluid absorption because of failure of foetal deglutition.^[8] They also form an important differential diagnosis of neck mass in children. Antenatal ultrasonography may not be able to detect these lesions, especially when small. Prenatal diagnosis of head-and-neck teratomas can be made with the use of high-resolution foetal ultrasound and magnetic resonance imaging (MRI), thereby permitting advance planning for airway intervention and tumour management.^[9] Head-and-neck

teratomas are usually accompanied by craniofacial abnormalities such as cleft of the palate, microcephaly, common carotid artery atresia and tonsillar malformations.^[10] Other congenital malformations associated with head-and-neck teratomas include imperforate anus, chondrodysplasia, left ventricular hypoplasia and pulmonary hypoplasia.^[11]

Upper airway obstruction is the major challenge in cases of large head-and-neck teratomas, and various techniques have been used in the immediate post-partum period to prevent asphyxiation and they include change of baby's position, traction on the tumour mass, intubation, or tracheostomy.^[12]

Other germ cell tumours resembling teratoma are hamartoma, choristoma and dermoid. Hamartoma contains tissue that is indigenous to the site of its growth. Choristoma is similar to hamartoma in terms of normal tissue growth potential, but the tissue is foreign to the site of origin. Oropharyngeal teratomas may be sessile or pedunculated and have been reported to protrude from the mouth and nares. One of the most severe forms of pharyngeal teratoma is an epignathus.^[13] It is a large pharyngeal teratoma with disfiguring mass presenting in the neonate.

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CASE REPORT

A 5-month-old baby, presented to the Ear, Nose, Throat, Head and Neck Clinic of the University of Benin Teaching Hospital with a history of recurrent prolapse of a mass from the mouth of 5-month duration [Figure 1]. The prolapse usually occurs following excessive crying or coughing and is usually manipulated back into the throat. There was no associated difficulty with feeding or breathing. It neither disturbed sleep nor caused snoring. There was no swelling in the neck or any other part of the body. There was no failure to thrive. The patient was the product of a full-term uneventful pregnancy and was delivered via a spontaneous vaginal delivery to a 34-year-old para 2⁺⁰ woman. There was no family history of congenital malformation. Examination revealed a calm playful child with a right preauricular sinus. Oropharyngeal examination revealed a tubular structure lying behind the soft palate and traversing the oropharynx and extending into the hypopharynx. Its lower extent could not be visualised *in situ*. Coughing resulted in the prolapse of the mass. The mass was a smooth skin-lined sausage-like mass with a dimple on its side and fine hair on its surface. The mass was not pulsatile, and there was no differential warmth. Computerised tomography scan confirmed the presence of a tubular paravertebral mass with a central fatty core extending from the level of the oropharynx to the level of the carina. The mass displaced the trachea anteriorly with mild narrowing of the lumen of the trachea and the oropharynx. There was no demonstrable defect in the adjacent cervical and thoracic vertebrae [Figures 2 and 3].

The patient had examination under general anaesthesia via an uneventful orotracheal intubation which revealed a mass with a narrow stalk attached to the lateral pharyngeal wall posterior to the left palatopharyngeal fold. Clamping of the stalk was carried out as close to the base as possible and ligated with cautery to the base. The specimen measured 10 cm by 1.5 cm and was covered by smooth skin and fine hairs [Figure 4]. Incision of the specimen revealed fatty tissue and blood vessels. Histopathological examination revealed a specimen consisting of a variegated brown and yellow firm L-shaped mass. It measured 8.0 cm × 1.8 cm × 1.5 cm. Cut surface showed a yellowish surface. Microscopy revealed a benign neoplastic lesion composed of ectodermal and mesodermal derived components. The ectodermal derived components include skin and skin adnexal structures, deep to which are lobules of adipose tissue demarcated by fibrous bands which represent the mesodermal-derived components. Features were those of a benign teratoma with no evidence of malignant transformation [Figures 4 and 5]. The immediate post-operative period was uneventful, and the patient was subsequently discharged home. He has been seen in the outpatient clinic 3-monthly postoperatively for 18 months without evidence of recurrence. He is still being followed up.

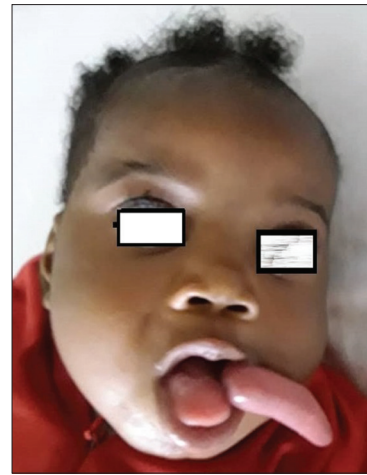


Figure 1: A child with prolapsed mass



Figure 2: Axial view of the mass occupying most of the cervical oesophagus with mild compression of the trachea



Figure 3: Sagittal reconstruction showing isodense lesion extending to the level of carina with mild compression of the trachea

DISCUSSION

Teratomas are thought to arise from pluripotent cells and contain poorly organised tissue derived from all the three



Figure 4: Excised specimen

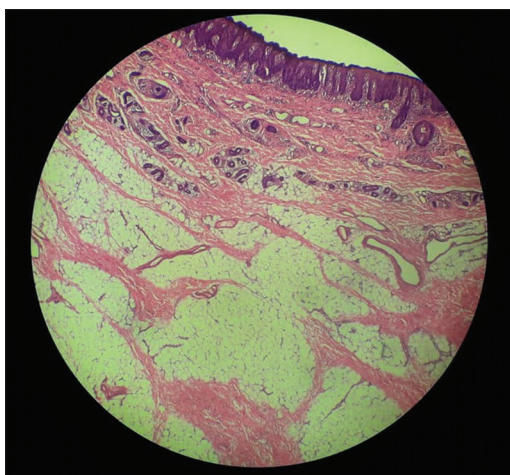


Figure 5: Tissue micrograph of excised teratoma

embryonic germ cell layers. Oropharyngeal teratoma can cause respiratory distress if it encroaches on the airway and progressive dysphagia with aspiration pneumonia due to impaired swallowing mechanism. Newborn babies with oropharyngeal teratomas have been known to present with repeated vomiting, failure to thrive and recurrent bouts of stridor and cyanosis since birth.^[14] Our patient did not present with any of these complaints except cough and prolapse of a mass on excessive coughing or crying. This was embarrassing to the parents as the mass could prolapse suddenly. The absence of respiratory difficulty or swallowing difficulty may be as a result of the small size of the mass. The mass laid parallel to the trachea with some displacement of the trachea anteriorly. The major consideration before surgery was anticipated difficulty in intubation of the patient. Management of oropharyngeal teratomas may require the creation of a surgical airway before resection.^[15]

The location of the stalk of the teratoma was on the region posterior to the left palatopharyngeal fold. This is similar to the location in a report by Chakravarti *et al.*^[16] The role of imaging studies, especially MRI in the diagnosis of oropharyngeal

teratoma, cannot be overemphasised as it allows for proper soft-tissue delineation.^[17,18] There is a need for a high index of suspicion of head and neck teratomas in the presence of polyhydramnios. Imaging should be carried out to confirm this to allow planning for adequate and timely intervention.

The management of teratomas of the head and neck requires a multidisciplinary approach involving various specialities.^[19] With antepartum diagnosis, *ex utero* intrapartum treatment has been known to prevent mortality in cases of huge epignathus.^[20]

CONCLUSION

Head-and-neck teratomas are relatively rare. Their presence may or may not be associated with respiratory distress. When present, multidisciplinary management is necessary for a favourable outcome.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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