

Picture Stories

A case of congenital pharyngeal diverticulum in a young infant

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Case report

A two and a half month old boy presented with excessive crying for 15 days and a midline swelling in the neck just above the sternal notch (Figure 1). The swelling had initially been small but had been growing in size for the last 15 days. It was apparent clearly only when the child was crying. There were no associated feeding difficulties or stridor. The child was a full term normal delivery with a birth weight of 2.5kg and an uneventful perinatal period. He was born of a non-consanguineous marriage to a 2nd gravida mother and was exclusively breast fed.

Examination revealed a 10mm x 10mm swelling in neck, just above the sternal notch which was clearly visible when the child was crying and disappeared once the child was quiet. No other abnormal findings were noted. Routine blood investigations were normal. Ultrasound scan of neck revealed a hypo-echoic swelling anterior to the left thyroid, anterior in neck and suprasternal region, appearing prominent on crying without any evident calcification or necrosis. A contrast enhanced CT scan of the neck and thorax revealed an air pocket inferior to left lobe of thyroid without a perceptible wall and with no enhancement in post contrast study suggesting a pharyngeal diverticulum (Figure 2). As the child was asymptomatic, he was kept under observation and was discharged to be followed up as an outpatient.

Discussion

Congenital pharyngeal diverticula embryologically represent branchial cleft remnants and connect with the pharynx. No fistula is seen in the neck. The communications with the pharynx usually have very narrow openings and may not be obvious on

laryngoscopy. The site of entry into the pharynx depends on the embryological branchial cleft of which the cyst is the remnant. The most common branchial cleft vestiges seen clinically derive from the second cleft and present as the well-known branchial fistula with its tiny opening in the neck. Third and fourth cleft vestiges less commonly give rise to externally communicating tracts and are more likely to be the source of the true congenital lateral pharyngeal diverticulum¹. Typically connections from these lie close to or enter the pyriform fossa, which is derived from the third and fourth pouches¹.

Pouches and diverticula of the pharynx and hypopharynx may arise in anterior, posterior or lateral aspects of the pharynx²⁻⁴. These are all rare lesions, the lateral pouches presumably arising from persistent elements of the second, third, or fourth branchial structures. Brintnall and Kredelbaugh described two newborn infants with posterior hypopharyngeal congenital true diverticula which arose just above the cricopharyngeal junction and descended into the mediastinum⁵. Neither child survived. The diverticula contained all normal elements of the pharyngeal tube and symptomatically presented with regurgitation and respiratory distress. However, the origin of the pouches was in the pharynx, not in the oesophagus. Posterior hypopharyngeal diverticula in the newborn are rare, but not unimportant in that they closely simulate atresia of the oesophagus, especially if there is a trachea-oesophageal fistula⁶.

If the diverticulum causes no symptoms, no treatment is required except for diligent follow-up. In those who develop symptoms, treatment is by excision of the cyst and tract to the pharyngeal wall, where the neck is closed and oversewn. Histological examination of the sac reveals an epithelial lining of stratified squamous or columnar epithelium surrounded by chronic inflammation with lymphocyte infiltration⁷. In our case, as the patient was asymptomatic, he was managed conservatively and followed up regularly.

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Figure 1: Photograph showing visible swelling at root of neck

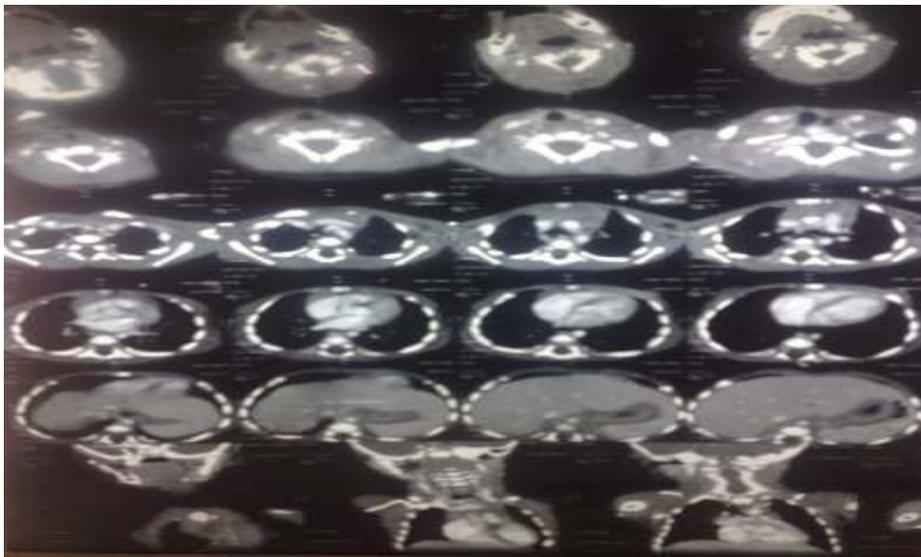


Figure 2: CT scan of neck and thorax showing an air pocket inferior to left lobe of thyroid

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