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Case Reports

Complete Branchial Fistula

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Case Report

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On examination a small opening was detected at the lower third of the neck at the anterior border of the left sternocleidomastoid muscle. Examination of the oropharynx, was unremarkable. On clinical grounds her lesion was diagnosed as congenital branchial fistula. [Fig 1]

Fig 1 – Discharging Fistula

She underwent an ultra sound scan of the neck which revealed a branchial fistulous tract. After explaining to the parents, a decision was made to go ahead with the surgery, without further investigations. Other general investigations were performed to assess the fitness for general anaesthesia.

After induction of general anaesthesia, methylene blue was injected through the external opening to visualize the fistulous tract. Pharyngoscopic examination did not reveal dye in the pharynx. An elliptical incision was made encircling the external lesion and sub-platysmal flap was raised. Tract was identified just deep to the anterior border of sternocleidomastoid [1]. It was dissected out from the rest of the tissue by tracing it upwards. A second incision was made at the level of the hyoid bone and the tract was delivered through it. (Fig 2) The tract was traced further towards the larynx between internal and external carotids, identifying hypoglossal nerve and was followed to the larynx and delivered through the oral cavity. (Fig 3)

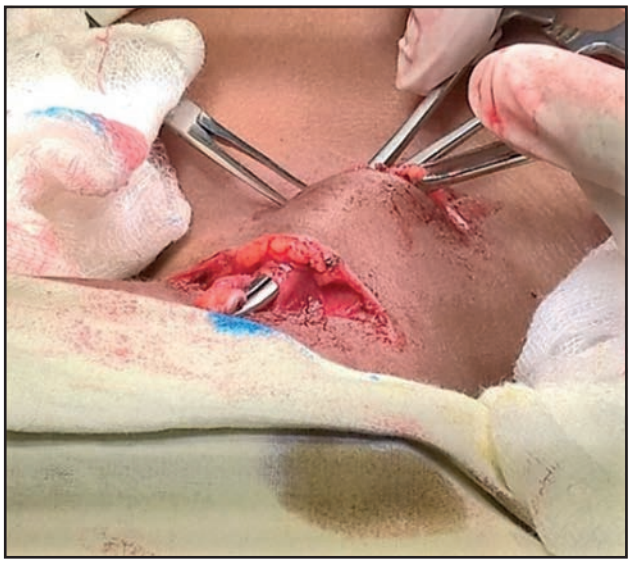

Fig 2 – Second incision and tract delivery

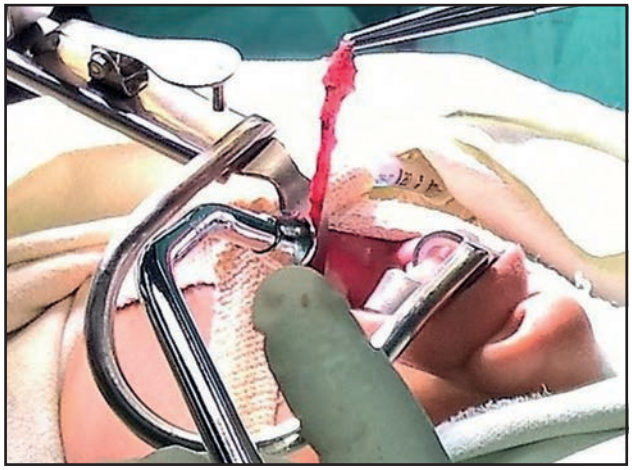

Fig 3 – Oral delivery of the tract

Discussion.

The Branchial apparatus appears between the 3rd and 5th weeks of embryonic life. Five ridges appear on the ventrolateral aspect of the head. Each ridge has mesenchymal core which is covered ectoderm externally and endoderm internally. Externally placed gaps covered with ectoderm are named clefts and internal gaps covered with endoderm are named as pouches. The clefts and pouches move towards each other to form a closing membrane. The mesenchyme gradually grows and obliterate clefts and pouch in humans. Failure of the second arch tract to obliterate, result in the formation of a branchial sinus or fistula. [2]

Patients commonly present within the first two decades of life. About 80% of the fistulae are clinically apparent before the age of 5 years [4]. The most common symptoms are a discharging sinus in the neck, with or without recurrent infections and abscess formation. Our patient was diagnosed at the age of 5. There is a slight female preponderance. Commonly it is detected on right side of the neck. The External opening frequently appears between upper two third and lower third of sternocleidomastoid muscle.

Contrast fistulograms are known to give a definitive diagnosis and help in planning the procedure preoperatively. In our scenario as the clinical features were suggestive, a decision was made to go ahead without contrast studies.

The treatment of choice is complete surgical excision. Two surgical methods are described. (The Stepladder method and Stripping method). This surgery was performed using stepladder method using 'Mcfee' incision. Two incisions in the neck give proper visualization of the tract which runs to the pharynx between internal and external carotids and glossopharyngeal nerve, above the hypoglossal nerve. Once the complete tract is traced, a gentle pull on the tract can identify the opening of the tract in the oropharynx. If necessary tonsillectomy can be performed to gain access. In our patient the tract was detected at the posterior pillar of fauces, thus not requiring a tonsillectomy.

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