

Case Report

Bilateral III Pouch Branchial Fistula

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Introduction:

Most of the branchial pouch anomalies originate from II branchial pouch. The anomaly arising from the III branchial pouch is uncommon and bilateral anomaly is extremely rare. A case of bilateral III pouch branchial fistula in 8 year old female is reported alongwith review of literature.

Case Report:

An eight year old female was admitted via OPD with bilateral discharging sinuses. The ostium of the sinuses were at the anterior border of clavicular attachment of sternomastoid. There was H/O off and on whitish discharge, mucoid in consistency coming out from these external openings since last 6 years. It was not associated with any other complaint. There was no H/O respiratory infections, abscess formation, thyroiditis or swallowing difficulties associated with this.

According to the location of external openings diagnosis of bilateral III pouch branchial fistula was made. Routine lab investigations showed normal profile. Fistulogram was attempted which was unsuccessful. Both the fistulous tracts were explored under general anaesthesia. The fistulous tract on left side was more developed as compared to the right. The left tract was extending upto the pyriform fossa and the right tract extended upto thyrohyoid membrane. Both tracts were completely excised. Postoperative recovery was uneventful. Clear liquids were permitted on the same day. Patient was discharged on second postoperative day and stitches were removed on fifth postoperative day. There were no complications on subsequent follow up for three months.

Photograph



Discussion:

The II branchial pouch is commonly involved in branchial pouch anomalies. The III pouch involvement is uncommon and constitutes less than 1% of all pouch anomalies (J.L demons) Bilateral involvement is even more uncommon. In children fistula are more common than sinuses. (David, Tapper Aschcroft) External opening of III and IV branchial pouch fistula are located almost at the same site. What some authors have considered pouch III fistula are considered by others to be pouch IV origin. (Marry E Fallot book) Left side is involved in 93% of cases. (Godin) The tract runs through or in close proximity to thyroid gland. The common age group involved varies from 4-10 years. The patient presents with one or more of the following features

- a) Lower neck abscesses
- b) Only discharge coming out of the opening
- c) Acute suppurative thyroiditis
- d) Stridor in new born

(Jeyakumar et al. Nicollasr Ducrozv Perire). Pouch III anomalies may occur in association with thyroid disease. In such circumstances they may pose a diagnostic and management dilemma. (Jane L et al) The treatment begins with careful complete history, physical examination and diagnostic investigations which include fistulogram, barium swallow, CT Scan and endoscopy. These diagnostic tools are helpful in delineating the fistulous tract. (Ch N Gupta et al) The treatment is complete excision of the tract upto pyriform fossa. In cases the tract passes through thyroid gland, partial or complete ipsilateral thyroid lobectomy is required Fallat) Other modalities of treatment include endoscopic cauterization. (Jordan Ja) A noninvasive treatment with chemo-cauterisation with 40% trichloroacetic acid (TCA) has been reported (S Tenquist)

In case of infection/abscess the initial treatment is with antibiotics and incision drainage which is followed by surgical excision. Recurrence rate is 3% in cases without previous surgery and infection. It is 20% in cases where previous surgery has been attempted. Other common complication is persistent leak at pyriform sinus opening. This leak is best treated by NG feeding for 2 weeks till its closure spontaneously (Fallat). In the present case, both the tracts were excised and no complications were reported for 3 months postoperatively.

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