COMPLETE FISTULOUS TRACT WITH OPENING IN BONY AUDITORY CANAL: A RARE PRESENTATION OF COLLAAURAL FISTULA

*Lalit Kiran Saini, Deepchand and Gaurav Gupta
1Junior Resident, Department of Otorhinolaryngology Head and Neck Surgery
SP Medical College, Bikaner
*Author for Correspondence

ABSTRACT
Collaural fistula is a rare entity and least common of first branchial cleft anomalies with no sex predilection. It has 2 opening staring from external auditory canal to outer opening in neck. But it very rare to have complete tract due to its obliteration because of recurrent infections. Among internal opening cartilagenous canal is commonly involved, bony canal is rarely has fistulous opening. We here present such a case of complete cord like fistula with internal opening in bony canal.

Key Words: Branchial Cleft, Fistula, Superficial Parotidectomy

INTRODUCTION
Collaural fistula is an embryological anomaly, formed due to defect in the development of first branchial cleft it account less than 8% of all anomalies. It runs from external auditory meatus or tragal notch down into the neck, opens at a point between the angle of the mandible and the sternomastoid muscle. Both internal and external opening are different in its location in every patient. Internal opening of fistula is located mainly in the cartilaginous portion of auditory canal and rarely in bony portion. Fistulous track runs through the parotid gland and may pass medial to, lateral to or through the facial nerve. Initially it presents with swelling in neck which later starts discharging followed by formation of sinus. It is associated with ear discharge which refuses to any medical treatment. History often suggests the onset of symptoms since birth. Surgery remains the main treatment modality for these cases. It includes complete excision of fistulous tract up to the internal opening and repair of the excised auditory canal.

CASES
An 18 year old female presented to the Department of Otorhinolaryngology, Sardar Patel medical college, Bikaner with history discharging skin sinus in left side of neck since 4yr of her age, along with left ear discharge. Symptoms started with swelling in neck which got burst out leading to formation of sinus. Her left ear started discharging after one year of starting skin swelling. She had recurrent bouts of skin infection with ear discharge, both initially responded to antibiotics treatment. Later both failed to respond any treatment. She had history of incision and drainage in peripheral center. On examination skin sinus opening was present on left side of neck at the level of hyoid bone below the angle of mandible. Skin was excoriated around sinus opening, with marks of repeated surgical incisions. Skin opening was pulled in upward direction due to fibrosis as a result of recurrent infection. Ear examination showed discharging opening in the floor of bony external auditory canal. Tympanic membrane appeared normal. Fistulogram was performed which further delineated the tract with no branching pattern. CECT scan of neck was also done which showed the complete tract of fistula from skin opening to the bony auditory canal and tract was running through the tissue of parotid gland (Figure 1 and 2).
Preoperatively methylene blue was injected through skin opening to demarcate fistulous tract easily intraoperatively. Modified parotidectomy incision was made including the ear opening at its upper end and the neck opening at its lower end. Superficial parotidectomy was done to get better view of fistulous tract. Elliptical incision was made on skin opening. Then tract was followed in upward direction.
On dissection a cord like structure was dissected in toto from skin opening up to bony external auditory canal. (Figure 3 and 4) Fistulous tract was found lateral to the facial nerve. Bony defect in auditory canal was repaired with muscle and fat reinforcement. Skin incision was closed primarily after putting drain. Post Op period remained uneventful.

**DISCUSSION**

Collaural fistula is often underdiagnosed due to its varied symptomatology and rare occurrence. Misdiagnosis leads to repeated incision and drainage followed by similar symptoms as the discharging fistulous tract is still present. Adhesion of tract to the parotid tissue and its close relation to facial nerve is very important in dealing with tract intraoperatively. As inadvertant stretching of facial nerve during procedure can lead to facial nerve injury, a prior superficial parotidectomy provides more clear exposure of complete tract which decreases chances of facial nerve injury. Patient should be warned of any facial
nerve trauma during procedure. Fistulogram and CECT Scan neck is advised to delineate fistulous tract and know the complete extent of tract.

CONCLUSION
External ear canal is derived from the 1st branchial cleft, the clinical manifestation of its duplication anomalies are not necessarily confined to otology. Rarity and diverse presentation often leads to misdiagnosis and inadequate treatment. Recurrent infection and scarring made intraoperative identification of facial nerve made very difficult. Facial nerve is highly vulnerable to injury, thus there is high risk of iatrogenic facial palsy. Any skin discharging sinus with ear discharge since birth or childhood should be investigated for possible branchial cleft anomaly.

REFERENCES