Case Report

Left Branchial Cleft Fistula with Ear Discharge in Elderly Male: A Case Report

Dr. Richa Gupta
Associate Professor, Department of ENT
Pacific Medical College and Hospital
Bhilo ka Bedla, Udaipur

Dr. Rajendra Gorwara
Associate Professor, Department of ENT
Pacific Medical College and Hospital
Bhilo ka Bedla, Udaipur

Dr. Prerna Mandowara
Assistant Professor, Department of ENT
Pacific Medical College and Hospital
Bhilo ka Bedla, Udaipur

Dr. Ravishu Kandhari
PG Resident, Department of ENT
Pacific Medical College and Hospital
Bhilo ka Bedla, Udaipur

Dr. Drishti Nagpal
PG Resident, Department of ENT
Pacific Medical College and Hospital
Bhilo ka Bedla, Udaipur

Address for Correspondence
Dr. Richa Gupta
gricha61@gmail.com

ABSTRACT

Introduction: The embryological development defects mostly present as anomalies of Branchial arch such as sinus, cyst and fistula. The most common presentation is unilateral discharge from neck and recurrent infection.

Case Report: We are presenting a case of 66 year old male patient who had been diagnosed with unilateral left branchial cleft fistula with ear discharge.

Conclusion: Detailed history and clinical examination followed by appropriate imaging leads to delineation of entire tract which in turns leads to complete excision with low recurrence rate.

Keywords: Brachial, Unilateral, Fistula.

INTRODUCTION

Branchial cleft cysts come to medical attention between the ages of 11 and 30. However fistulas and sinuses can be present during initial years of life[1]. It may occur at any age.

During embryological development the branchial arch develop in 4th week of intrauterine life. Branchial arches are six in number develop in craniocaudal succession in vicinity to pharyngeal foregut. Sixth arch because of its small size appears as part of fourth arch while fifth arch either disappears or rudimentry[2,3]

CASE REPORT

A 66 year old male patient came to the Outpatient department of ENT, Pacific medical college and hospital, Udaipur with the chief complaints of discharge from Left side of neck and Left ear off and on from past 30 years. Patient had few episodes of acute infections with discharge being sero-mucoid in nature, scanty and not blood stained. There was no aggravating factor and relieved with antibiotics course. Oral examination revealed grade I Tonsil hypertrophy. There was no history of trauma. The discharge from ear was insidious in onset, intermittent, gradually progressive, serous in nature, scanty in amount, non-foul smelling, not blood stained, not associated with pain, relieved with ear drops, and there was no aggravating factor. Tympanic membrane was normal. It was associated with tinnitus which was intermittent in nature with diurnal variation and worse at night. There was history of frequent self-cleaning of ear with ear buds. Patient reported decreased hearing in Left ear since 10 years which was insidious in onset, gradually progressive and was unable to hear loud voices. There was also history of itching in Left ear. Audiogram was moderate with Sensorineural hearing loss.

There was no history of fistula in other family members or any other associated congenital syndromes

He was a known case of Hypertension and Thyroid since last 5 years and was on regular medication. Patient also has a history of prostrate surgery two weeks back.

On general physical examination, patient was well nourished with average built, conscious and oriented to place, date and time. There was no sign of pallor, icterus, clubbing, cyanosis and generalised lymphadenopathy.

On local examination opening was seen on left side of neck which on pressure application had discharge.

The CECT Neck with Fistulogram (Figure 1) was done and revealed there is thick walled (with foci of calcification) fistulous tract in left side of neck. The external opening of tract is seen in skin below submandibular region. The tract is traversing supero-medially through submandibular soft tissue into the parenchyma of deep lobe of parotid (medial to retromandibular vein) and having internal opening within inferior wall of external auditory canal. During fistulogram spillage of contrast is seen coming through external auditory canal. These findings are likely to represent Type I Branchial Cleft Fistula.

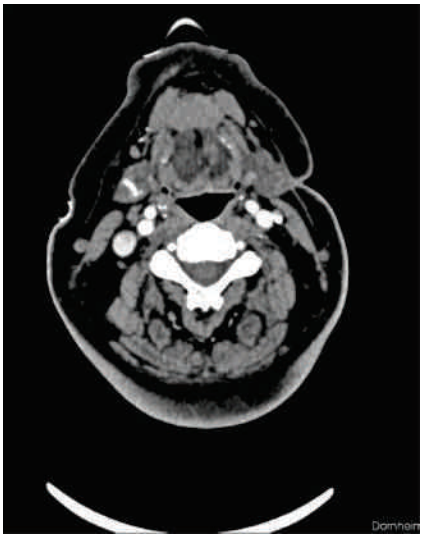

FIGURE-1 The CECT Neck with Fistulogram

DISCUSSION

The branchial apparatus were first described by Von Baer while its anomalies were first described by von Ascheroni[4]

As the branchial arch develops, the failed obliteration of the branchial clefts often leads to the development of branchial arch anomalies, whereby they may present as cysts, sinuses, or fistulas[2].

The most common presentation of Second branchial cleft anomalies was cysts followed by sinuses and fistulae. These cases emerge as a persistent unilateral discharging defect usually at the right side of the neck which worsens upon the consumption of drinks[5]. In present case the patient had recurrent infections and unilateral discharge at the opening in neck.

During embryological development the disappearance of endoderm leads to fistula formation in most cases. Hence on affected side of neck a tract is formed at upper two third and lower one third of the sternocleidomastoid muscle[6].

The lesion can be evaluated using meticulous history and complete physical examination. The course of tract can be visualized by appropriate radiological imaging before performing operative procedure. This helps in minimizing the chances of recurrence and the relation of tract to the vital structures[7].

They have previously been classified into four different subtypes by Bailey in 1929 Type I-Most superficial and lies along the anterior surface of sternocleidomastoid deep to the platysma, but not in contact with the carotid sheath Type II-Most common type where the branchial cleft cyst lies anterior to the sternocleidomastoid muscle, posterior to the submandibular gland, adjacent and lateral to the carotid sheath Type III-Extends medially between the bifurcation of the internal and external carotid arteries, lateral to the pharyngeal wall Type IV-Lies deep to the carotid sheath within the pharyngeal mucosal space and opens into the pharynx Types I-III are the most frequently occurring second arch anomalies, with type II being the most common[8]. In our case it was type 1 brachial fistula.

The surgical approaches for excision include transcervical approach and combined pull-through technique. As described by Bailey the stepladder approach is a standard one with low rate of recurrence with two incisions the upper one being bigger than the lower one because of its proximity to neurovascular bundle. Canaloplasty was done in present case we operated the patient by stepladder approach. Recurrence was not seen.

CONCLUSION

Radiological imaging such as fistulogram is most commonly done. CT fistulogram is preferred investigation to delineate the complete tract and its relation with important structures so that excision can be planned and recurrence can be avoided.

REFERENCES

1. Choo MJ, Kim YJ, Jin HR. A case of second branchial cleft cyst with Orolaryngeal presentation. J Koreal Med Sci 2002;17:564–6
2. Adams A, Mankad K, offiah C, Childs L. Branchial cleft anomalies: a pictorial review of embryological development and spectrum of imaging findings. Insights Imaging. 2016; 7:69-76.
3. Waldhausen J. Branchial cleft and arch anomalies in children. Semin Pediatr Surg. 2006; 15:64-9.
4. De PR, Mikhail T. A combined approach excision of branchial fistula. J Laryngol Otol. 1995; 109:999-1000.
5. Bajaj Y, Ifeacho S, Tweedie D. Branchial anomalies in children. Int J Pediatric Otorhinolaryngol. 2011;75(8)1020-3
6. Prasad SC, Azeez A, Thada ND, Rao P, Bacciu A, Prasad KC. Branchial anomalies: diagnosis and management. Int J Otolaryngol. 2014;2014:237015
7. Proctor B, Proctor C. Congenital lesion of the head and neck. , Otolaryngol clin N Am 1970; 3:221-248
8. Bailey H. Branchial Cysts and Other Essays on Surgical Subjects in the Faciocervical Region. London: Lewis, 1929.