ORIGINAL RESEARCH PAPER
Volume - 13 | Issue - 02 | February - 2024 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

A RARE CASE OF AN ADULT ONSET PARAPHARYNGEAL BRANCHIAL CLEFT CYST

General Surgery

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ABSTRACT

Branchial cleft cyst is a rare congenital anomaly which presents usually within the first 20 years of life. The presentation is normally in the form of a discharging sinus, fistula or a mass. Sinus, fistula present faster due to the associated discharge and recurrent infections which ensues. Cysts have an epithelial lining without external openings, and as such, may be asymptomatic and only noticed incidentally. Branchial cleft fistulae are true communications connecting the pharynx or larynx with the external skin. A mass on the other hand, even if present since birth, presents only when it has grown to considerably larger dimensions. In the case report, we study the case of an adult onset branchial cleft cyst, with xanthogranulomatous changes which presented as a mass in the left carotid triangle of the neck.

KEYWORDS

Branchial Cleft Cyst, Adult Onset, Parapharyngeal

INTRODUCTION:

Branchial cleft cyst is the most common cystic lesion in the neck which presents before 20 years of age. Presentation of the same however, after the stipulated age is very rare and should raise alarms regarding potential malignancy within the same. The median age of diagnosis is 19 years and the time lapsed from the onset of symptoms to the satisfactory treatment is 3.5 years. Female predominance is seen, with the cyst being more common on the left side. There is a little to no literature available regarding late presentation (above 60 years).

Branchial cyst is formed due to failure of obliteration of the 1st to the 4th branchial cleft. The cyst mostly arises from the second branchial arch. The spectrum of the disease varies from a simple cyst which doesn't produce any symptoms to large cyst with concurrent pressure symptoms, discharging sinuses and fistula.

Treatment protocol of the patient includes early diagnosis, control of local infection if any, followed by complete resection of the cyst with preservation of the facial nerve (derivative of the second branchial arch). Another aspect to be kept in mind is to rule out any secondary malignancy particularly in long standing, undiagnosed branchial cysts. Here, we present an unusual case of adult onset second branchial cleft cyst arising from the parapharyngeal space.

Case Report:

70 years old female patient comes with the chief complaints of left sided neck swelling which she noticed 6 months ago, difficulty in moving the neck to the right side and not associated with weight loss. The mass was roughly 3 x 2m in size. There was no significant surgical history. On examination the mass was palpated to be cystic with fluctuation present. Facial nerve was not involved, with no lymphadenopathy in the cervical group. There was no evidence of any swelling elsewhere in the body. MRI of the head and neck region was done to see the extent of the cyst and also to see the possible infiltration into the adjacent neurovascular structures. MRI revealed the mass to be arising from the parapharyngeal space measuring 3.8 cm x 2.6 cm, compressing the left internal jugular vein, sparing the Carotids. Furthermore, there was no facial nerve or lymphovascular infiltration or infiltration into the surrounding soft tissues.

FNAC of the mass revealed inflammatory cells with no evidence of malignancy. Based on the above mentioned findings, decision was made to go ahead with an elective branchial cyst excision under GA.

Intraoperatively the mass was found to be arising from the parapharyngeal space, abutting on, however not occluding and not infiltrating the left internal jugular vein. The mass wasn't adhered to the underlying soft tissues. The cyst was removed in toto without injury to any of the underlying nerves or vascular pedicle. The patient had an uneventful postoperative course, and no recurrence was noted after a 3-year follow-up.

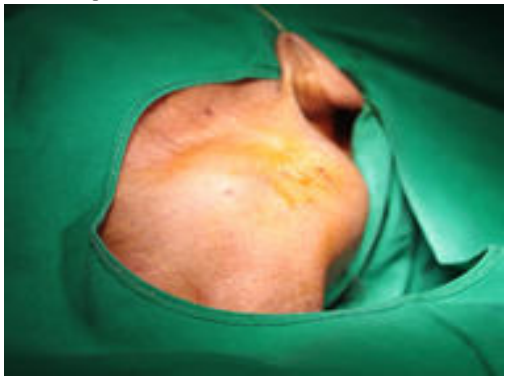

Figure 1: Preoperative image showing the cyst along the anterior border of the left sternocleidomastoid muscle

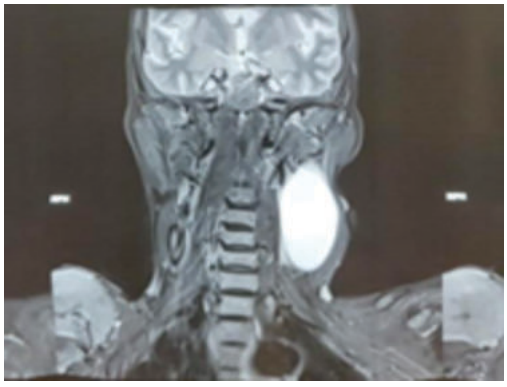

Figure 2: MRI image showing the mass lesion abutting the internal jugular vein, localized swelling with no local infiltration

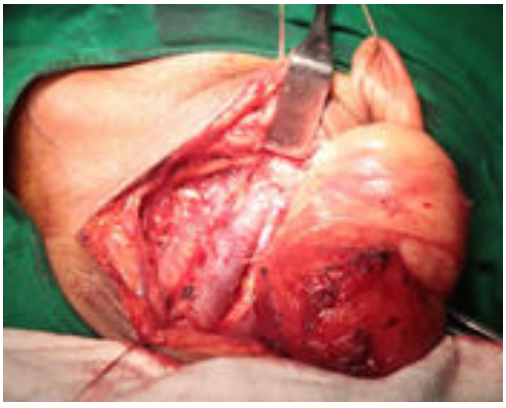

Figure 3: Intraoperative image of the cyst arising from parapharyngeal space, abutting left internal jugular vein

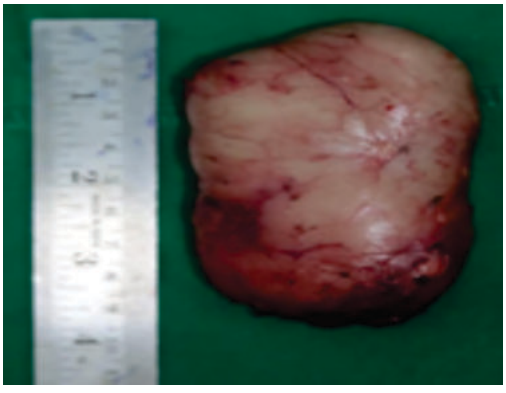

Figure 4a: Resected mass in toto, kept next to a scale to compare

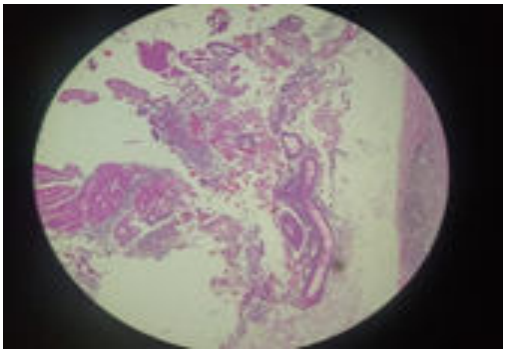

Figure 4b: histopathological examination showing xantho granulamatous changes

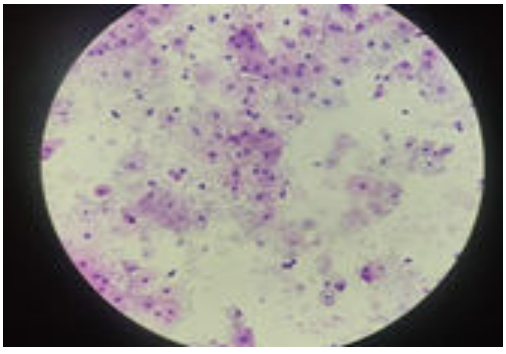

Figure 4c: FNAC of the aspirated fluid after PAP staining showing cells with normal architecture with no evidence of malignancy

DISCUSSION:

Branchial cleft starts developing from the 2nd week of intrauterine life and continues to develop till the 7th week. This is the most widely accepted precursor for the development of a branchial cleft cyst.

Branchial cyst is the most common cause of neck swelling in ages less than 20 years of age. Beyond this age, tubercular lymphadenopathy, HIV related lymphadenopathy, Hodgkin's lymphoma and squamous cell carcinoma are the common diagnosis. Branchial cyst with its onset in the age group of more than 60 years is very rare. It is considered to be due to the failure of complete obliteration of the cervical sinus which is the overgrowth of the second branchial cleft with the third and the fourth branchial cleft. The incompletely obliterated branchial cyst remains dormant, only to start growing later in life, thereby the late presentation in certain cases.

A thorough clinical examination of the mass should be done keeping in mind a range of differential diagnosis. In cases wherein the age of presentation is late, such as in our patient, it is pertinent that we rule out a possible squamous cell malignancy in the cyst. Possibility of a a metastasis from an occult primary should also be ruled out.

Radiological investigations like Computed tomography (CT) can be done to study the extent of the disease, local infiltration as well as distant metastasis. MRI scan holds higher value for delineation of the mass from the underlying tissues and gives greater information regarding local tissue infiltration and possible nerve involvement.

If sufficient data is present regarding the diagnosis of the disease to be a branchial cyst, an FNAC needn't be performed as FNAC even though provides information regarding abnormalities in cytology, cannot give information regarding the possible infiltration of the basement membrane. Treatment of the cyst is surgical with removal of the mass in toto with excision of any tract, if present. Failure to remove the capsule, the mass in toto or the tract may lead to local recurrence. The mass so removed needs to be sent for histopathological reporting for a final tissue diagnosis. On histopathological examination, branchial cyst is lined by stratified squamous or sometimes pseudostratified, columnar epithelium and connective tissue contains lymphocytes.

A complicated, large cleft cysts with lymphovascular invasion or malignant transformation may warrant a multidisciplinary approach for complete removal of the cysts as well as to prevent post-operative complications including recurrence

REFERENCES

1. Coste, Lofgren, and Shermetaro, "Branchial Cleft Cyst."
2. Thompson, "Branchial Cleft Cyst."
3. Singh et al., "Branchial Cleft Cyst Carcinoma."
4. Iio and Yoshitomi, "Second Branchial Cleft Cyst."
5. Bellakhdhar et al., "Second Branchial Cleft Cyst."
6. Coste, Lofgren, and Shermetaro, "Branchial Cleft Cyst."