

Enigma in the Management of Branchial Cyst: Case Report

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Abstract: *Introduction:* The oral lympho-epithelial cyst is a rare soft-tissue, developmental anomaly, initially presented by Gold in 1962 as a branchial cleft cyst. It may occur in pancreas, tongue, neck and oral cavity. *Case report:* We report a case of 39 years old male presented to surgery opd with painless swelling over the left side of neck - 3 months duration. On examination swelling was 8*4cm in left submandibular region, non-tender, no local rise of temperature noted, compressible, bimanually palpable, neck nodes were not palpable, oral cavity/ oropharynx was normal. ENT examination was normal. Excision of the gland was performed under GA. *Conclusion:* In adults branchial cleft anomalies most often present with lateral neck mass which is often misdiagnosed and results in inappropriate management.

Keywords: Branchial cyst, lateral neck mass

1. Introduction

The branchial cleft cyst is a developmental anomaly of the lateral neck region. These are the most common congenital neck masses. [1] Other names are lympho-epithelial cyst, branchial tumour, congenital hydrocele of neck. [2] Ninety-five percent of branchial anomalies are second branchial anomalies. These anomalies can present as sinuses, fistulae and cysts. [3] Branchial cleft cysts comprise approximately 75% to 80% of all branchial anomalies. 95% of these cystic lesions arise from the second branchial arch and 5% originates from first, third and fourth arches. [4] Branchial cleft cyst occurs most commonly, in the lateral aspect of neck along the upper one-third of anterior border of the sternocleidomastoid muscle. Cystic lesions of second branchial cleft are more common compared to sinus/fistula. [3]

2. Case Report

A 39/M presented to surgical OPD with painless swelling in the right lateral aspect of neck of 3 months duration. Initially size was 2 cm which has gradually progresses to current size of 4 cm. Patient had no other complaints. On examination 4 cm* 2cm sized solitary swelling noted in right submandibular region with no skin changes, non-tender cystic in consistency swelling was compressible. Other side of the neck was normal. Oral and ENT examination was normal. Diagnosis of right submandibular cyst was made after clinical examination and USG neck. USG neck was suggestive of well designed hypoechoic lesion in right submandibular region, neck nodes were normal. CT scan of head and neck was done for further evaluation, which was suggestive of well circumscribed cystic lesion in right submandibular region. Patient underwent excision of the right submandibular cyst with gland under general anaesthesia.



Figure 1: Intra-Operative image depicting line of incision



Figure 2: Subplatysmal upper flap



Figure 3: Cystic lesion of submandibular region



Figure 4: Spared marginal mandibular nerve

An incision was made as shown in fig.1, and the upper flap was raised in subplatysmal plane. The cyst was dissected out carefully with the submandibular gland along with sparing of the marginal mandibular nerve. Haemostasis was achieved and layered closure was performed using vicryl 2-0. After anaesthesia recovery, patient was assessed again and was monitored continuously. he was hospitalized for 2 days post-operatively and was discharged on oral antibiotics for 5 days. He was followed up after an uneventful week. The excised specimen was sent for histopathology and immunohistochemistry.

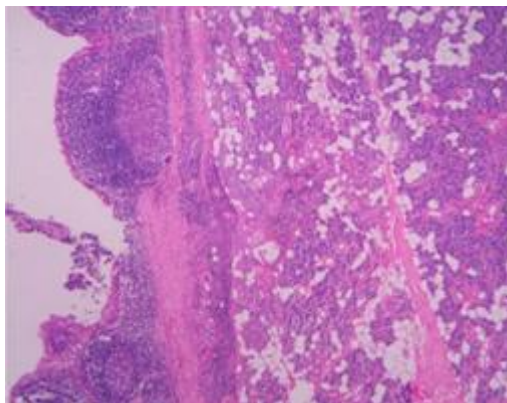


Figure 5: Branchial Cyst Elements

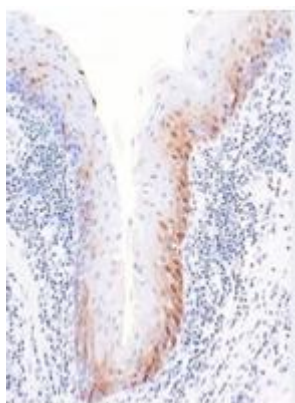


Figure 6: Positive IHC

Histopathology

Specimen was lined by stratified squamous epithelium. Wall of the cyst had lymphoid tissue.

3. Discussion

Cervical lymphoepithelial cyst or branchial cleft cysts are

solitary slow growing soft fluctuant mass. Usual age of presentation in adults is in their second or third decades of life. Branchial cleft cyst in adults is typically located in the lateral aspect of neck. [5] Cervical lymphoepithelial cysts are usually associated with symptoms like swelling, pain, infection which might be the stimulus for consultation. The clinician should be cautious in diagnosing cystic lesion in 50 years or older individuals as metastatic squamous cell carcinoma may mimic as branchial cleft cyst. Surgical excision is the treatment of choice for uninfected lymphoepithelial cyst.

Four major theories have been put forth and explained by Maran and Buchanan in 1974 are,

- 1) Brachial apparatus theory,
- 2) Cervical sinus theory,
- 3) Thymopharyngeal theory and
- 4) Inclusion theory.

Martin proposed four criteria for the provisional diagnosis of such a clinical lesion. They are

- 1) The tumour should occur in the line extending from anterior to the tragus to the anterior border of sternocleidomastoid muscle, to the clavicle.
- 2) The histologic appearance of the lesion should be consistent with an origin from tissue present in the brachial vestigial.
- 3) The patient must survive at least five years without development of other tumour than can be regarded as primary.
- 4) It must be demonstrated that cancer developed in the wall of an epithelial lined cyst situated in the lateral aspect of the neck.

4. Conclusion

The branchial cleft cyst occurs as a result of developmental error which is typically located in the lateral aspect of neck. Hence, the present case is reported in order to highlight the differential diagnosis of lateral neck swellings.

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