

Congenital Epidermoid Cyst within the Parotid Gland - A Rare Presentation

Dr. Sunil Sidana¹, Dr. Taher Abbas Mistry², Dr. Yusuf Abbas Mistry³

¹MDS, MFDSRCS (UK), Professor, Department of Oral and Maxillofacial Surgery, MGM Dental College and Hospital, Kamothe, Navi Mumbai

²BDS, Post Graduate Student, Department of Oral and Maxillofacial Surgery, MGM Dental College and Hospital, Kamothe, Navi Mumbai

³MDS, Department of Oral and Maxillofacial Surgery, MGM Dental College and Hospital, Kamothe, Navi Mumbai

Abstract: Epidermoid cysts are common skin lesions that consist of epithelial lined cavities which are filled with viscous or semisolid epithelial degradation products. Epidermoid cyst can occur anywhere in the body and are most common in the ovary and testicle. They are uncommon in the head and neck region, occurring in 7% of all epidermoid cysts of the body. Epidermoid cysts can be congenital or acquired. Intraparotid congenital epidermoid cysts are very rare and can be confused with other cystic parotid lesions, neoplasm or abscess. We present clinical features, radiographic features and surgical management of a case of intraparotid congenital epidermoid cyst

Keywords: Epidermoid cyst, Intra-parotid cyst, Parotid Cyst, inclusion cyst of parotid

1. Introduction

Epidermoid cyst is defined as "A simple cyst lined with stratified squamous epithelium and lumen is filled with cystic fluid or keratin and no other specialized structure"[1]. It is also known by several synonyms like epidermal cyst, epidermal inclusion cysts, infundibular cysts and keratin cysts. Epidermal inclusion cyst is formed by traumatic implantation of epithelium whereas congenital epidermoid cyst is formed by entrapment of epithelial remnants during embryonic fusion. Epidermoid, dermoid and teratoid cysts are three histological variants of epidermoid cyst as described by Meyer in 1955[2]. Dermoid cyst is differentiated from epidermoid cyst by the presence of epidermal appendages. Epidermoid cyst can occur anywhere in the body and are most common in the ovary and testicle. They are uncommon in the head and neck region, occurring about 7% in this region.[3] Intra-parotid congenital or true epidermoid cyst is very rare [4] and can be confused with other cystic parotid lesions, neoplasm or abscess.

2. Case Report

A 17 year old male patient presented to our department with painless swelling in the right preauricular region which increased gradually over 4- 6 months. There was also no history of trauma or any previous surgeries reported in the facial region/ear. The patient was HIV negative. On examination, there was a localized ovoid mobile soft to firm swelling in the right preauricular region lateral to angle of mandible. The swelling was 2.5 x 2.5 cm in size. It was fluctuant, non-tender and non-pulsatile, was not fixed to underlying structures and the overlying skin. Regional lymph nodes showed no abnormalities. Facial nerve examination revealed no abnormalities. Intra-oral findings were unremarkable. Ultrasonography of the lesion was done which revealed a 26x19 well defined hypo echoic lesion within right parotid gland with no evidence of vascularity in

the lesion on color doppler suggestive of parotid abscess. Fine Needle Aspiration Cytology was subsequently done. Cheesy keratin was aspirated suggestive of Keratinous cyst. The MRI revealed a hyperintense lesion on T2W and hypointense on T1W involving the superficial lobe of the right parotid gland with hypointense walls on T1 weighted images measuring 28mm x 28mm x 21mm with radiographic diagnosis of Simple cyst of parotid gland [Fig 1]. Due to benign nature of lesion from history, examination and investigations, cyst was removed through extracapsular dissection technique with no facial nerve weakness postoperatively. Histopathologically, soft tissue section showed a cystic lumen filled with laminated keratinous material and lined by a compressed epidermis with prominent granular layer with a final diagnosis of epidermoid cyst [Fig 2]



Figure 1: T2W axial MRI image showing a hyperintense lesion in the Superficial lobe of Right Parotid Gland

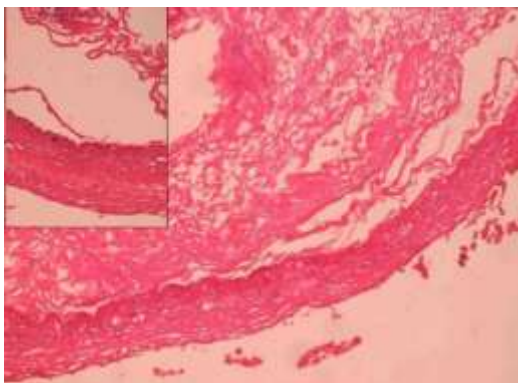


Figure 2: 10X H&E stained slide shows a cystic lumen filled with laminated keratinous material and lined by a compressed epidermis with prominent granular layer (Inset) 40X H&E

3. Discussion

Depending on the pathogenesis, epidermoid cyst can be divided into:

- 1) Congenital
- 2) Acquired

Congenital cysts are dysembryogenic lesions that arise from ectodermal elements entrapped during midline fusion of the first and second branchial arches between the third and fourth week of the intrauterine life. Alternatively, they may also arise from tuberculum impar of His [5]. Acquired cysts result from implantation and encystment of a viable epidermal fragment. This tends to occur following trauma or surgery and has been described as occurring in several different parts of the body after biopsy procedures or surgery. [6] The exact histogenesis of salivary epidermal cyst is uncertain, but it may have arisen from developmental branchial pouch analogue epithelium which can occur in salivary gland or could be due to obstruction in salivary duct within the substance of the gland leading to epithelial lining cavity filled with viscous semi-solid epithelial degradation product. [7] Epidermoid cysts typically feel “dough like” on palpation, although they may be fluctuant and cyst like based on consistency of the luminal contents that may range from a cheesy, sebaceous to liquid substance. [8] Diagnosis is mostly by imaging and aided by fine needle aspiration, followed by excision biopsy. However, because of the different types of clinically similar and comparable lesions in this region, it can be misdiagnosed as other possible cystic parotid lesions. The possible cystic parotid lesions can be divided as [9]

- 1) Developmental: Polycystic disease of the salivary gland, first branchial cleft cyst
- 2) Non-neoplastic: Mucous retention cyst, Lymphoepithelial cyst, sialocele, Sjogren's syndrome
- 3) Benign neoplasms: Warthin's tumor, Cystadenoma, Cystic pleomorphic adenoma
- 4) Malignant neoplasms: Mucoepidermoid carcinoma, low grade Cystadenocarcinoma.

4. Conclusion

It is important for clinicians to be aware of this possible diagnosis, as it can be mistaken for an abscess, neoplasm or other cysts including cystic neoplasm.

5. Competing Interests

There is no conflict of interests.

6. Funding

There is no funding for this case report. This case report involves human subject but there is no ethical approval required for this case report. Patient consent is not required as no clinical photographs are inserted in this case report.

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Author Profile

Dr Sunil Sidana [MDS, MFDSRCS(UK)] was a Professor in the Department of Oral and Maxillofacial Surgery, MGM Dental College and Hospital. He has many national and international publications to his name. He is currently into private practice.



Dr. Taher Mistry is a Post Graduate Student in Department of Oral and Maxillofacial Surgery in MGM Dental College and Hospital



Dr. Yusuf Abbas Mistry is a Post Graduate Student in Department of Oral and Maxillofacial Surgery in MGM Dental College and Hospital

