

Case Report

Keratinous Cyst of External Auditory Canal Masquerading as Parotid Lesion: A Clinical Dilemma

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- Epidermal inclusion cyst
- Dermoid cyst
- Enucleation

Abstract

Cystic swelling of parotid is a rare clinical condition. Incidence is only 5%. Differential diagnosis of cyst in parotid are Dermoid cyst, first Branchial arch cyst, Malignancy, calculi and epidermal cyst. Keratinous cyst is a type of epidermal cyst and it is also called as Epidermoid cyst/ Epidermal Inclusion cyst. It can occur after trauma or surgery due to implantation of epithelium. Patient presents with painless soft swelling with gradual progression in size. FNAC and MRI scan are invaluable tools for diagnosis of such cysts. In this case, a 52 year old male with soft swelling in right parotid region was diagnosed of keratinous cyst. Patient underwent Enucleation of the cyst and the cyst was found to be attached to the external auditory canal. Histopathology confirmed the diagnosis. Keratinous cyst in parotid region with attachment to the external auditory canal is rarely reported in literature. This study discusses the clinical presentation, diagnosis and the surgical treatment of the keratinous cyst in parotid.

INTRODUCTION

Parotid gland is an unusual site for occurrence of a cystic lesion. Swelling of a parotid gland could be due to a benign or malignant process. Cystic lesion forms only 5% of all parotid swelling. More often than not we can find malignancy being the reason for the cystic swelling in parotid [1]. Benign cyst of parotid gland can be a congenital or acquired cyst. Benign congenital cyst can be the first brachial arch cyst which is of two types (type 1 and 2) [2]. Acquired causes are trauma, Stenson's duct calculi or parasite infection. Keratinous cyst is the common cystic swelling seen in skin. It is formed from the ectodermal tissue. It consists of thin layer of squamous epithelium. It is also called as the Epidermal Inclusion Cyst/ Epidermoid cyst. Etiology is due to trauma which results in implantation of epidermal tissue into the dermis and resulting in formation of the cyst. The site of origin of this cyst could be from the skin lining portion of external auditory canal which forms the superior border of the parotid. These cysts require surgical excision and Fine Needle Aspiration Cytology with Radiological investigation is needed for the diagnosis. In this case report, we present a 52 year old male with right parotid keratinous cyst which was diagnosed with FNAC and MRI scan. Patient underwent Enucleation of the right parotid keratinous cyst. The purpose of this study is to discuss about the presentation and management of this rare clinical entity as only few cases are reported in the literature.

CASE PRESENTATION

52 year old male, presented to OPD with complaints of painless swelling in the right parotid region for 6 years. It was insidious in onset and progressed gradually to attain the present size. There was no previous history of surgery or trauma.

On examination, there was a single ovoid (5*4 cm) swelling in the right parotid region. Skin over the swelling was normal. It was a smooth swelling, cystic, margins palpable, mobile, not warm, non-tender, not compressible (Figure 1). Bilateral external auditory canal and tympanic membrane were normal. Rest of the Ear, Nose and throat examinations was insignificant. General systemic examination was normal.

Patient underwent Magnetic Resonance Imaging of the Right Parotid region. It showed a well circumscribed cyst (3 * 2.5 * 5.4 cm) in the subcutaneous plane, superficial to the right parotid gland (Figure 2,3). Fine Needle Aspiration Cytology done from the same showed a cellular proteinaceous material with squamous cell debris and it revealed a diagnosis of Keratinous cyst of the Parotid (Figure 4).

Patient underwent Enucleation of the right parotid region Keratinous cyst. Cyst was completely delineated from the surrounding tissues. Superiorly it was found attached to External auditory canal and safely dissected in to (Figure 5). Specimen was



Figure 1 Patient presented to us with a Right Parotid Region Swelling.



Figure 2 T2 weighted (Axial) image of the Right parotid region: A well-defined oval, hyper intense lesion with maintained fat planes with adjoining structures; medially by superficial lobe of the Right Parotid, laterally by subcutaneous tissues. Extending cranially just above upper border of parotid and caudally below inferior margins of the Parotid.

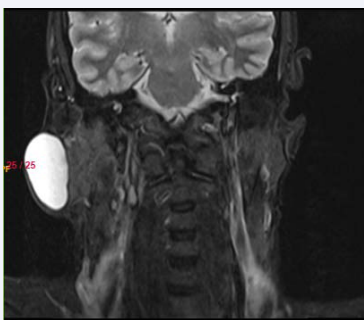


Figure 3 Coronal Section of a T2 weighted image of the parotid: Round to oval hyper-intense lesion abutting the right parotid medially and subcutaneous tissue laterally with maintained fat planes likely benign.

sent for Histopathological examination. Patient was discharged on second post-operative day and post-operative period was uneventful.

On Histopathological examination, a grey-brown specimen was seen and thick pultaceous material on cutting sections was noticed, and the Histopathological examination (Figure 6) report confirmed our diagnosis. The cyst wall had lining of keratinized stratified squamous epithelium with prominent granular layers and Cyst content shows kerating flakes.

DISCUSSION

An epidermoid cyst is a benign cyst and defined as “a simple cyst lined with stratified squamous epithelium and lumen is filled with cystic fluid or keratin and no other specialized structure” [3]. Keratinous cyst is a common skin condition consisting of cavities lined with epithelium. These cyst contain keratin and debris from the epithelium. In head and neck region their incidence range from 1.6 to 6.9% [4,5]. The epidermal cysts present in the 5th and 6th Decade of life. Incidence is equal in both males and females. It is a rare condition in the parotid region [4].

These cysts require surgical excision. Patient will present with a painless slow growing soft swelling in the parotid region. Congenital causes for such cystic swelling are branchial cleft cyst, dermoid cyst, and lymphoepithelial cyst. Dermoid cysts arise from epithelial cell rests during embryonic development. It has mesodermal and ectodermal components in it [6]. Acquired causes include malignancy, trauma, obstruction, lipoma and calculi. Malignancy like adenoid cystic carcinoma can also present as a cystic swelling. Differentiating epidermal inclusion cyst from malignancy is very important for the correct management of the disease. Clinically, malignancy will be associated with rapid increase in size with or without pain. Associated facial nerve palsy or lymph node enlargement will be seen in case of malignancy.

Diagnosis of cystic lesions in parotid can be challenging.

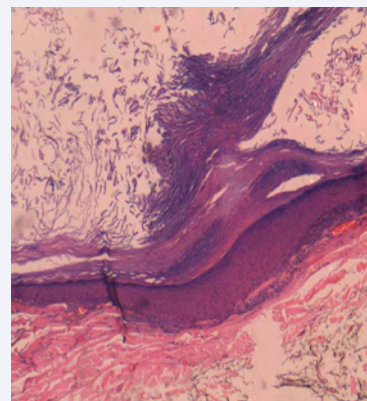


Figure 4 Fine Needle Aspiration Cytology of the Cyst.



Figure 5 Intra-operative findings showing the sinus tract up to the External Auditory Canal.

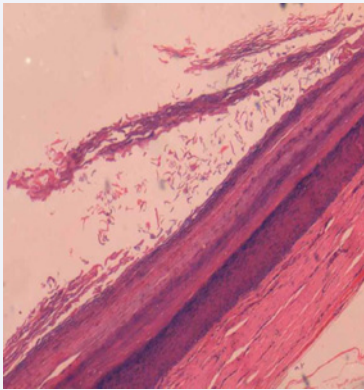


Figure 6 Post-operative Histopathology picture of the cyst.

FNAC and USG can be helpful in diagnosing such cases. Specificity of FNAC in salivary gland lesion is 91% [7]. In USG, cyst appears as a hypoechoic mass with internal echogenicity in connection with the skin [8]. There can be an increased echogenicity because of the collected keratin debris. This onion like appearance is characteristic of epidermoid cyst. CT and MRI are useful tools to study the structure of the mass and delineate the boundaries of the mass from the surrounding tissue. CT scan depicts cystic lesion as hypodense structure. In MRI, there will be a hyperintensity in the cyst in T2 weighted images. It is invaluable in assessing the relationship of the mass with the parotid gland, as in our case we found a clear plane separating mass from the parotid. It also differentiates the cyst from fat filled lipoma which can mimic cystic swelling clinically. Due to its cost factors, it may not be available at every setup where USG will be an invaluable tool.

Even though FNAC is a reliable investigation, histopathological examination will confirm the diagnosis post operatively. Surgical excision of the lesion is needed. When the cyst is found to be in the parotid gland, superficial parotidectomy is done. In our case, the cyst was found superficial to the plane of parotid and found to have an attachment at the superior wall with external auditory canal. Hence Enucleation of the cyst was done. Meticulous dissection is needed to prevent the rupture of the cyst and

spillage of the content. No remnant of the cyst should be left behind to prevent recurrence.

CONCLUSION

This is a rare case of Keratinous cyst presenting in the Parotid region and communicating to the EAC. It has a tract up to the External Auditory Canal which is rarely reported in literature. Our case has explained the significance of an accurate pre-operative diagnosis of a benign cystic lesion of the parotid and its significance in its further management. This article also highlights the importance of the FNAC and MRI as a tool leading to accurate diagnosis of the Parotid cystic lesion. USG can be useful in places where MRI are not available. A complete Surgical Excision in such a case can lead to a good outcome and no risk of recurrence.

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