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Case Report

Epidermoid cyst of earlobe: a common cyst at an uncommon site

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ABSTRACT

Epidermoid cysts are frequently encountered cutaneous cysts. They are mostly tiny and benign swellings. But rarely they can grow huge in size and malignant transformation can also occur occasionally. Cosmetic disfigurement is also another important concern especially in head and neck region. We report a case of earlobe epidermoid cyst, a location where very few cases have been described in the literature. The cyst was completely excised and the wound was closed with nylon 4/0. Histopathological examination confirmed the diagnosis of an epidermoid cyst. The patient did not have any signs of recurrence even after six months postoperatively. Due to the possibility of malignant transformation and to ensure correct diagnosis, we consider that histopathological examination is necessary for all cysts although the clinical diagnosis could be enough.

Keywords: Earlobe cyst, Epidermoid cyst, External ear, Dermoid

INTRODUCTION

Epidermoid cyst or epidermal inclusion cyst represents one of the most common cutaneous cystic lesions. They are lined by layer of ectoderm.[1] These lesions are originated from germinal epithelium and can occur anywhere in the body.[2-5] Most commonly reported locations are ovaries and the testicles (80%), 7% reported to occur in the cervical and face area and 1.6% in the region of oral cavity.[4,5] Epidermoid cyst of outer ear is a rare entity. Very few earlobe epidermoid cysts are described in the literature.[6] Epidermoid cysts usually do not have any symptoms and rarely can go for malignant transformation. Apart from malignancy, aesthetics is also one of the prime concerns particularly in the head and neck region.

The purpose of our case report is to highlight the occurrence of this common cyst in earlobe which is an uncommon site and the importance of subjecting the same to histopathological examination.

CASE REPORT

A 26-year-old male presented to our ENT OPD with history of swelling on left ear since 1 year. Swelling was insidious in onset and size of the swelling was gradually progressive in nature. Initially it was the size of a peanut and over a year it reached to its recent size as that of a lemon (Figure 1 A and B). It was painless. Patient did not give any history of ear lobe piercing. On examination, there was a vertically oval shape swelling measuring 4×2 cm on the inferior aspect of the left ear lobule extending into medial and lateral aspect of the pinna. On palpation, swelling was non tender, non-pulsatile and no local rise of temperature. Surface was smooth and regular. It was soft and cystic in consistency, fluctuation was present. Skin covering the swelling was normal. Rest of the pinna, external auditory canal and tympanic membrane on the left side was normal.

Fine needle aspiration cytology revealed keratin debris and few squamous cells which are suggestive of epidermal inclusion cyst. Patient was counselled and

explained about the need for surgery. He was then posted for excision of the left ear lobe mass under local anaesthesia after obtaining a well-informed and written consent.

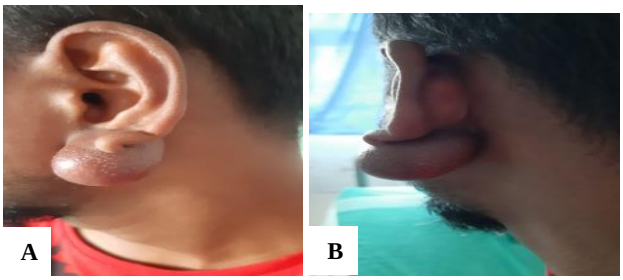

Figure 1 (A and B): Preoperative images showing the epidermoid cyst on the left ear lobe.

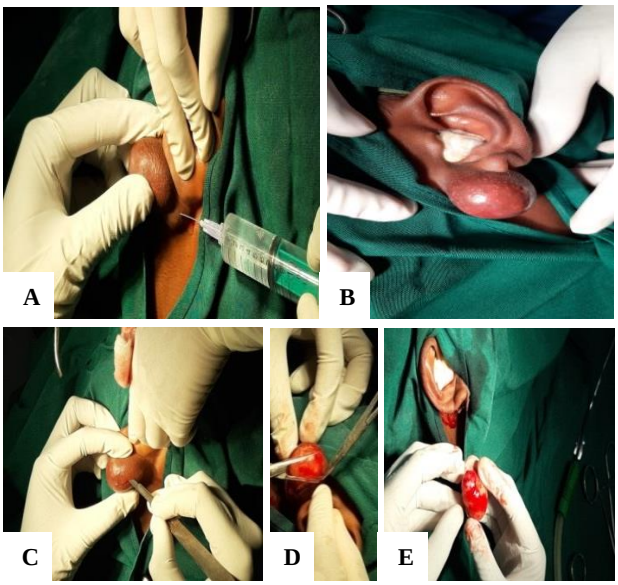

Figure 2 (A-E): Intra operative images of excision of left ear lobe cyst under local anaesthesia.

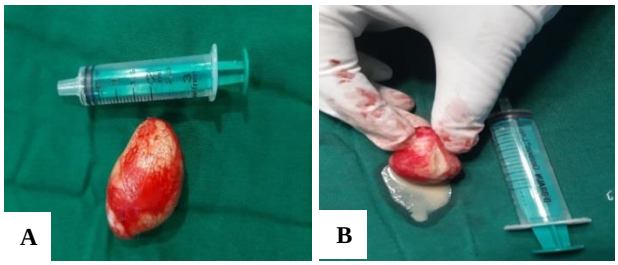

Figure 3: (A) Postoperative image of the completely excised left ear lobe cyst in total; (B) resected epidermoid cyst and its content.

Excision of the cyst was done under local anaesthesia in our minor operation theatre (Figure 2). The cyst was completely resected and the wound was closed with nylon 4/0. The cyst content on macroscopic examination was a yellowish greasy substance (Figure 3) and the resected cyst was sent for microscopic examination. Histopathological examination revealed an encapsulated cyst along with keratin material in the centre, without any adnexal structures such as sweat glands or hair. The lining epithelium of the cyst was found to be stratified squamous epithelium. Final diagnosis of an epidermoid cyst was made according to histopathological examination (Figure 4).

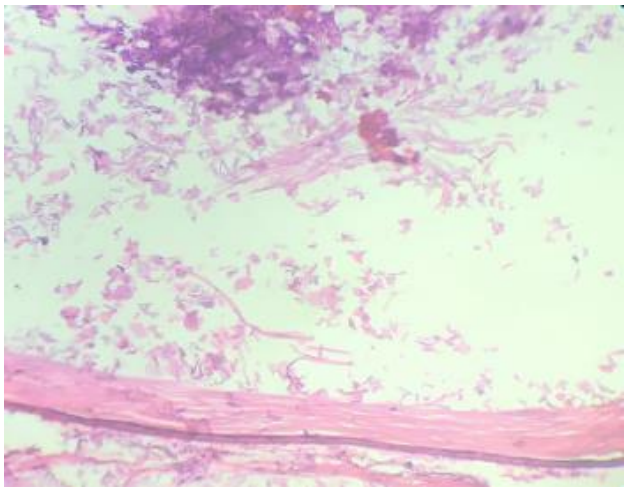

Figure 4: Microscopic picture showing an encapsulated cyst with lining epithelium made up of stratified squamous epithelium along with keratin material in the centre, suggestive of an epidermoid cyst.

Figure 5 (A and B): Postoperative images after complete excision of the cyst and lobuloplasty.

The patient did not have any signs of recurrence even after six months follow up.

DISCUSSION

The term ‘epidermoid cyst’ was first described by Roser, in 1859.[7]

Epidermoid cysts are benign skin lesions. They are various other names such as epithelial cyst, epidermal inclusion cyst, keratin cyst for this cyst. Incorrect

migration of remnant ectoderm tissues during embryogenesis (Congenital) or implantation of epithelium contents due to surgery or trauma (acquired) can lead to formation of epidermoid cyst.[8]

Werhner in 1855 first recognised acquired epidermoid cyst. Sutton described it as" implantation cyst" in 1895.[9-12] Meyer in 1955, described three histological variants of epidermoid cyst:

Dermoid cyst: cystic cavity with lining epithelium contains skin appendages such as hair, hair follicles, sebaceous and sweats glands.

Epidermoid cyst: cystic cavity with epithelial lining without any appendages of skin.

Teratoid: cyst cavity contains mesodermal derivatives such as bone, muscle along with skin appendages.[4,5,13,14]

Epidermoid cysts are usually diagnosed in young adults in the age group of 20-30 years. There is a male predilection with a male to female ratio of 3:1.[3,15,16]

The most frequent site involved by epidermal cysts in the region of head and neck are neck, cheek, pre-auricular area, and nasal area.[17] Epidermoid cysts are very rarely described in external ear. But few earlobe epidermoid cysts are reported in the literature.[6] Clinically, epidermoid cysts are present as nodular, fluctuant subcutaneous lesions occasionally associated with inflammation.[18]

Epidermoid cysts are usually symptom free, but sometimes, they can get secondarily infected or may shows signs of inflammation like pain, swelling and redness.

Development of malignancies such as epidermoid cell carcinoma, basal cell carcinoma, bowens disease and melanoma insitu in epidermoid cyst are reported rarely in the literature.[5,16]

Dini et al and Ikeda et al described basal cell carcinoma originating from an epidermoid cyst.[20] Squamous cell carcinoma evolving from wall of epidermoid cyst was reported by Lopez-Rios et al.[21] The treatment is definitive, if the cyst is completely excised.[22]

In the head and neck region, aesthetics is also prime concern apart from the malignant potential of the cyst Gardner's syndrome should be ruled out if these cysts occur before puberty and multiple in number.[23,24] Human papilloma virus infection and UV exposure are risk factors in patient with epidermodysplasia verruciformis for development of epidermoid inclusion cyst.[25]

Macroscopically, on sectioning, the cyst consisted of soft, yellowish or whitish greasy material probably due to keratin.[26,27] Histopathologic examination of H-E stained section showed cyst with lining epithelium which is made up of stratified squamous epithelium.

The most important differential diagnosis is a dermoid cyst. Histopathologically, the lining epithelium of both dermoid and epidermoid cysts is same which keratinized stratified squamous epithelium is while the dermoid cyst also possesses skin appendages in the wall.[28-30]

Complete excision is the treatment of choice for epidermoid cyst. There should be some differences in removal according to the location as suggested by Cho et al.[31] In case of ear lobule cyst, complete excision appears to be easy but for unexperienced surgeons it is not easy to preserve the skin overlying the swelling. If the surgeon does diffident excision to preserve the skin and ear lobe volume, there are chances that part of cystic wall be left which result in recurrence. If the excision was too excessive, the chances are more that there will be failure to preserve the overlying skin of the cyst. Primary closure is easy if the skin defect is small. Skin graft may be required if the skin defect is large because primary closure can lead to an ear lobe constriction postoperatively.

CONCLUSION

Epidermoid cysts are rare entity in the head and neck region, so they are likely to be misdiagnosed. Due to the potential for malignant transformation and to ensure correct diagnosis, we consider that histopathological examination is must in all cases. The earlobe is a potential site for huge epidermoid cysts, so early diagnosis and complete removal of epidermoid cysts with regular follow up are of great concern cosmetically as well as to prevent recurrence.

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