

Epidermal Cyst in the Ear Lobule: A Rare Presentation of a Common Condition

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Abstract: *Background:* Epidermal cysts are cutaneous cysts commonly found in the face followed by the trunk and neck. These constitute 80% of the follicular cysts of the skin. They have a tendency to develop into malignancy or can form huge swellings causing cosmetic disfigurement. *Case report:* 23-year male patient presented with solitary swelling over the left ear lobule which was excised under local anesthesia and ensuring proper cosmesis. *Conclusion:* The main challenge is to perform ensure good cosmesis as well as perform a complete resection of cyst to avoid recurrence. Due to the tendency of malignant potential, histopathological examination remains the gold standard in evaluation.

Keywords: Earlobe cyst; Epidermoid cyst; External ear; Retroauricular cyst

1. Background

An epidermoid cyst is a non-cancerous, encapsulated lesion located beneath the epidermis, containing keratinous debris. It is also described in the literature as an epidermal inclusion cyst, epidermal cyst, or infundibular cyst. While these cysts are most frequently observed on the face, neck, and trunk, they may develop at a variety of other sites, including the scrotum, genital region, fingers, and, on rare occasions, within the oral cavity such as the buccal mucosa. Epidermoid cysts develop within the infundibulum. Although these cysts are recognized as benign lesions, rarely malignancy can arise. (1)(2)(3). Apart from the malignancy, proper aesthetics is also a prime concern, especially in the head and neck region. Epidermoid cysts of the external ear have been reported rarely in literature. The purpose of this case report is to report the case of a common entity occurring at a rare location and the need for a proper histopathological examination.

2. Case Report

A 23-year-old male patient came to ENT OPD with a complaint of swelling over the left ear lobule for 2 years. The swelling gradual in progression and onset was insidious. There were other associated complaints. There was no history of trauma or ear lobe piercing.

On examination of the pinna, swelling of 2x 1cm was present on the left ear lobule which was soft, cystic, nontender with no features of inflammation. The rest of the pinna, whole of the external auditory canal, preauricular region and tympanic membrane were normal (Figure 1).

Ultrasonography of the region showed a homogenous swelling of size 2.1 x 1.6 cm in the left ear lobule consistent with a benign cyst.

Provisional diagnosis of benign cystic swelling of ear lobule was made. Other differential diagnosis considered were keloid, sebaceous cyst, lipoma, squamous cell carcinoma.

The patient was counselled regarding the need for excision. After taking well-informed and written patient was posted for excision of swelling under local anaesthesia. Excision of the swelling was done in a minor operation theatre under local

anesthesia. A vertical incision was taken over the lobule, cyst was delineated from the surrounding tissue (Figure 2 A & C) and removed in toto (Figure 2 B). The wound was closed with non-absorbable suture.

Histopathological examination showed features of an epidermal inclusion cyst with keratin material at the center. The surrounding material was lined with stratified squamous epithelium.

There were no adnexal structures like sweat glands seen. Final diagnosis of an epidermal inclusion cyst was made and the patient was followed up every 3 months. The patient did not show any recurrence after 6 months (Figure 3).

3. Discussion

Epidermal cysts, also termed epidermoid inclusion cysts, keratin cysts, epithelial cysts, sebaceous cysts, or milia, are among the most common benign cutaneous lesions. Proposed mechanisms for development include entrapment of ectodermal derivatives during embryonic development, follicular occlusion with keratin accumulation, and epidermal cell displacement into the dermis following accidental or iatrogenic injury (4). These usually occur in the 3rd and 4th decade of life and are more commonly seen in males. They commonly occur at sites like face, scalp, trunk and rarely described in scrotum. In the ear they are most commonly seen in the retroauricular region, cysts of the external ear have been rarely reported in literature, (5). These cysts can rarely become inflamed or infected secondarily which can lead to pain and sometimes abscess formation. Long-standing epidermal cysts can, on rare occasions, give rise to malignancies such as epidermoid carcinoma, Bowen's disease, basal cell carcinoma, and melanoma in situ (6). Apart from their usual distribution, cysts have also been identified in unusual locations including the breast, intracranial cavity, anterior chest wall (presternal), presacral region, popliteal space, and even the plantar surface. [7]. Epidermal cysts of the post auricular region must be differentiated from lipomas and haemangiomas. Lipomas are benign fatty tissue containing tumours and haemangiomas which are usually present at birth are benign tumours of the vascular endothelia (8) (9).

Apart from the malignant potential, aesthetics is also a prime concern of the cysts developing in the head and neck region. Human papilloma virus along with high UV light exposure can lead to epidermoid inclusion cyst formation in patients of epidermolyticus verruciformis (10). The main differential diagnosis that needs to be considered is a dermoid cyst. On histopathological examination, both epidermal as well as dermoid cysts have the same wall lining of keratinized squamous epithelium. Dermoid cyst may also possess skin appendages in the wall. (10). Complete excision of the cyst is the main line of management while also maintaining the aesthetic appearance of the ear. In the case of an ear lobule cyst, it is necessary to remove the cyst along with the wall to prevent recurrence as well as not to remove excessive skin over the swelling as it can lead to constriction of the ear lobule postoperatively. In cases of a giant cyst, where the skin is excessively stretched due to pressure, some skin may need to be removed for proper cosmesis. The defect if small can be closed primarily or sometimes a skin graft may be required. Need for histopathological examination is a must as long-standing cysts have a tendency of malignant transformation.

4. Conclusion

Epidermoid cysts of the external ear, especially on the earlobe, are uncommon but can lead to complications if untreated. They have the potential to grow significantly and, in rare cases, undergo malignant transformation. Early detection, complete removal, and routine follow-ups are essential to prevent recurrence and ensure the best cosmetic and medical outcomes.

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Consent to participate – taken

References

- [1] Kasahara R, Tajiri R, Kobayashi K, Yao M, Kitami K. Squamous Cell Carcinoma Developing from a Testicular Epidermal Cyst: A Case Report and Literature Review. *Case Rep Urol*. 2019; 2019: 9014301.
- [2] Birge O, Erkan MM, Serin AN. Case report: epidermoid inclusion cyst of the clitoris as a long-term complication of female genital mutilation. *J Med Case Rep*. 2019 Apr 27;13(1):109.
- [3] Kim SJ, Kim WG. Clinical and Imaging Features of a Ruptured Epidermal Inclusion Cyst in the Subareolar Area: A Case Report. *Am J Case Rep*. 2019 Apr 24; 20: 580-586.
- [4] Hong SH, Chung HW, Choi JY, Koh YH, Choi JA, Kang HS. MRI findings of subcutaneous epidermal cysts: emphasis on the presence of rupture. *Am J Roentgenol*. 2006; 186: 961-6
- [5] Joaquin, P.G., Allesandra, S., Emilio, C.-S., Rioja Luiz, F. and Rosario, P. (2012) Giant Earlobe Epidermoid Cyst. *Journal of Cutaneous and Aesthetic Surgery*, 5,38-39. <https://doi.org/10.4103/0974-2077.94342>
- [6] Swygert, K.E., Parrish, C.A., Cashma, R.E., Lin, R. and Cockerell, C.J. (2007) Melanoma in Situ Involving an Epidermal Inclusion (Infundibular) Cyst. *The American Journal of Dermatopathology*, 29, 564-565. <https://doi.org/10.1097/DAD.0b013e3181513e5c>

- [7] Karacal, N., Topal, U. and Kutlu, N. (2004) Popliteal Epidermoid Cyst: An Unusual Location. *Plastic and Reconstructive Surgery*, 114, 830-831. <https://doi.org/10.1097/01.PRS.0000136543.54426>.
- [8] Dive Alka, M., Shughangi, K., Rohit, M. and Shruti, D. (2012) Epidermoid Cyst of the Outer Ear: A Case Report and Review of literature. *Indian Journal of Otology*, 18, 34-37.
- [9] Pérez-Guisado J, Scilletta A, Cabrera-Sánchez E, Rioja LF, Perrotta R. Giant earlobe epidermoid cyst. *J Cutan Aesthet Surg*. 2012 Jan;5(1):38-9. doi: 10.4103/0974-2077.94342. PMID: 22557855; PMCID: PMC3339128.
- [10] Jayendiran S, Iype JV, Srinivasa V. Epidermoid cyst of earlobe: a common cyst at an uncommon site. *Int J Otorhinolaryngol Head Neck Surg* 2019; 5: 1400-3

Figures



Figure 1: Preoperative image showing globular swelling over left ear lobule

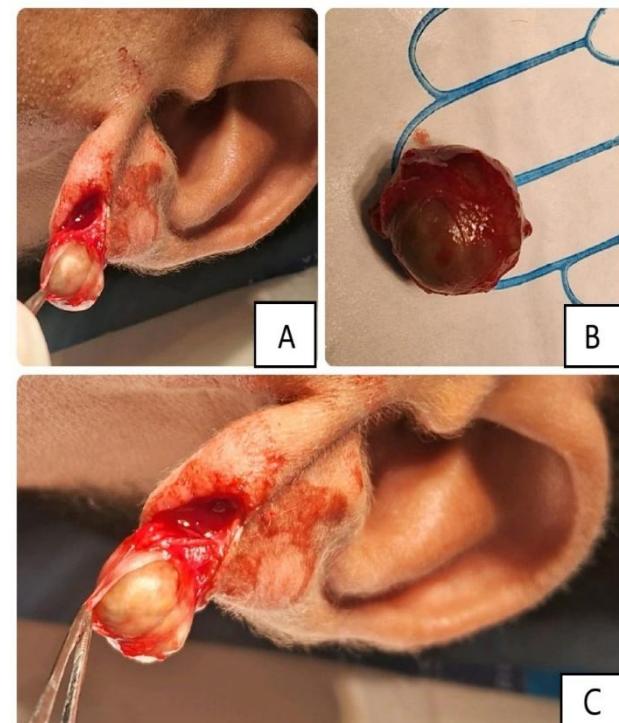


Figure 2 A & C: Intraoperative images showing incision and dissection of cyst
B: Showing cyst removed in toto



Figure 3: Postoperative image showing healed scar