International Journal of Otorhinolaryngology and Head and Neck Surgery
Oviya P et al. Int J Otorhinolaryngol Head Neck Surg. 2025 Oct;11(5):609-612
http://www.ijorl.com
pISSN 2454-5929 | eISSN 2454-5937

DOI: https://dx.doi.org/10.18203/issn.2454-5929.ijohns20252998

Case Report

Post-aural epidermoid cyst: a case of diagnostic detour

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Received: 11 April 2025
Revised: 12 September 2025
Accepted: 18 September 2025

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ABSTRACT

Epidermoid cysts are benign lesions arising from epidermal inclusions within the dermis. They are the most common cutaneous lesions occurring in the third and fourth decades of life. Although frequently seen in the head and neck region, post auricular localization with regional extension is rare. The most common presentation is a painless swelling; however, pain may occur in cases with complications such as cyst rupture, secondary inflammation, or infection. This case presented with recurrent history of painful swelling in the post aural region with extension into the supra aural and zygomatic area. After evaluating with USG and CT, incision and drainage was done. 2 weeks post procedure patient had reappearance of the swelling that prompted further evaluation. MRI showed a positive finding of T2 hyper intense homogenous lesion in post aural region with diffusion restriction and communication with the incision and drainage site. On surgical exploration cystic lesion in post aural region with a small track in the supra aural region seen. Complete removal with histopathological studies done showed the diagnosis of post aural epidermoid cyst. This case highlights the need of high suspicions index in cases with recurrence or atypical presentations. Radiological evaluation and histopathological examinations aids in concluding the diagnosis.

Keywords: Epidermoid, Post aural cyst, Benign cyst, Keratinizing cyst, Unusual presentation

INTRODUCTION

Benign developmental cyst that has the ability to produce keratin with high lipid content.[1] Approximately 80% of the cyst seen in head and neck region with about 2.5% in the retro auricular area. The most common etiology include skin injury, others includes BRAF inhibitors, cyclosporine, Gardner's syndrome.[2-5] Recently, human papilloma virus infection and ultraviolet radiation have also been implicated.[6] Long-standing cysts can lead to complications such as inflammation, rupture, or, rarely, skin malignancies in about 1% of the population, most common being squamous cell carcinoma.[7,8] Regional extension of the disease can necessitate the need for complete radiological evaluation and histopathological confirmation.[9]

Given the incidence of the disease, unusual presentation can pose diagnostic difficulties. Here we discuss a case of unusually presenting epidermoid cyst with abscess like features.

CASE REPORT

A south Asian male in early 20's presented to ENT outpatient department with complaints of painful left post auricular swelling with zygomatic extension. There was no history of fever, ear pain or discharges. Upon further probing patient gives a previous history of similar complaints around 10 years of age, diagnosed as an abscess and managed with incision and drainage. Patient was asymptomatic for the intervening period till presenting to us.

On proceeding with examination, fluctuant, tender swelling of size 6×2 cm noted in the post auricular region extending supra aurally till the zygomatic root. Except the previous scar not other sinuses, scars or punctum identified. External auditory canal and tympanic membrane and was found intact.

After initial investigation of ultrasonography and computer tomography, no mastoid complications or lymph node abscess was identified and hence proceeded surgical drainage.

Figure 1: (A) The initial clinical expression of swelling in the post auricular region with scar from previous surgery; (B) there is also swelling observed in the supra aural region extending into zygomatic root. Spot the displacement of pinna outward and forward.

On follow-up, there was reaccumulation of collection necessitating further evaluation. Evaluations was done in view to rule of underlying cold abscess or Pott's spine. In MRI, the evidence of underlying soft tissue swelling identified. On surgical exploration, a cystic lesion was identified in post aural region which was confirmed as epidermoid cyst by histopathology.

Investigation

Completed blood count was done to identify leukocytosis. Ultrasonography was done to differentiate between solid and cystic lesions. It showed collection in the post auricular area with no evidence of lymph nodes involvement. This was the initial investigation done. Major limitations were that it was unable to determine cyst wall that delayed the identification of the cyst. CT screening was done to rule out middle ear and mastoid pathologies. The case presented here shows normal ear and mastoid anatomy.

Pus culture and sensitivity showed no growth. Acid Fast Bacilli staining and gene expert was sent to rule out Tuberculous abscess. Reports were negative. MRI was done to rule out any underlying post aural pathology and screening of spine for Tuberculous lesions. MRI showed T2 hyper intense soft tissue swelling with diffusion restriction of size 1.8×1.4 cm in the left post auricular region abutting the posterior canal wall. Collection tracking superiorly, with external opening into skin through post procedural defect.

Histopathological examination of the excised lesion was done and showed stratified squamous epithelium lined cyst with keratin flakes. Mild infiltrates composed of mononuclear cells are seen, imposing the suggestion of inflamed post aural epidermoid cyst.

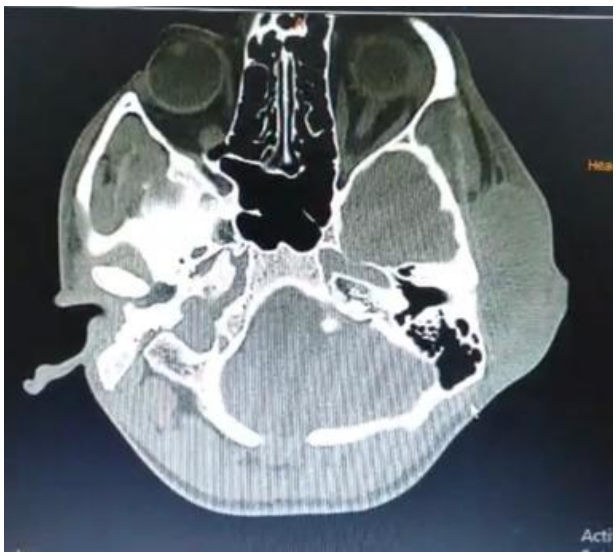

Figure 2: The axial high resolution CT cuts of temporal bone denoting the presence of left supra mastoid collections without mastoid or middle ear disease.

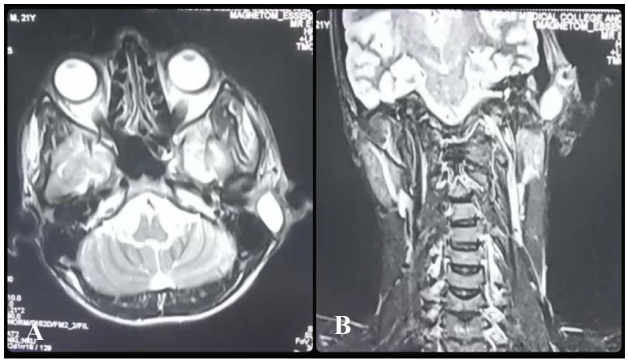

Figure 3: (A) The axial MRI T2 image of the head and neck, with a hyperintense swelling o size 1.8*1.4 cm with diffusion restriction; (B) the T2 sagittal MRI image demonstrating a communicating track from the swelling to the incision and drainage site.

Differential diagnosis

The first considered diagnosis on presentation was complicated chronic suppuration otis media. Subperiosteal abscess or mastoiditis can have similar presentations. Here the patient has no history of ear complaints and on examination tympanic membrane was found to be normal. On radiological evaluation, screeching CT showed normal middle ear and mastoid

anatomy. Post auricular lymph node is ruled out by ultrasonic examinations. The presence of cold abscess was suspected which was contradicted by painful presentation presentation and absence of necrotic matted lymph nodes.

Treatment

On admission patient was started of preliminary Intravenous antibiotics and analgesics. After all necessary investigations, surgical incision and drainage was done under local anaesthesia. A stab incision was made in the area of maximum bulge and the layers separated. After localisation incision was made and pus like material of about 10 ml was drained. Track was found to be extending superficial to the temporalis fascia. Complete evacuation and wound wash given, track packed with medicated gauze and sterile dressing done. Daily wound wash and dressing done and discharged after a week.

With a 1-week interval patient returned to the department with reaccumulation which was on investigating identified as soft tissue lesion and so planned for surgical exploration under general anaesthesia. After induction, patient was position in supine with head to right, post aural incision made by extending the previous stab incision. The layers identified and separated. A pale cyst like structure was identified in the post auric liar area which was dissected carefully form the surrounding tissues. On continuing dissection, the supero medial part has a small track like extension that was identified to be the causes for zygomatic collection. After confirming he o stasis, deeper layers closed with 2-0 vycryl and the skin with 3-0 Ethylone.

Figure 4: (A) Displays the intraoperative findings with black markings highlighting the location of cyst and the blue arrow denoting the path of zygomatic extension; (B) represents the post auricular wound site after suture removal on postoperative day 7.
Note complete healing of the wound with small areas of granulations.

Outcome and follow-up

Post procedure daily sterile dressing and antibiotic ointment for local application was given. 3 days postoperative lay, patient was discharged and was reviewed after 7 days. Inspection of the wound was found to be healthy and suture removal was done. Patient was advices to continue the local antibiotic applications.

Patient was reviewed at 1st and 3rd month postoperatively. Post auricular wound found to be healthy and no recurrence till date. Patient is on constant follow-up and will be reviewed 6 months later.

DISCUSSION

Cystic swellings of the neck can be categorized as dermoid, epidermoid, and teratoid cysts. Epidermoid cysts are benign, slow-growing lesions classified as congenital, arising from the trapping of ectodermal tissue, and acquired type results from trauma, iatrogenic, or obstruction of the sebaceous duct.[10] Handa et al reported 33 cases of epidermis cyst, and other large group study conducted by Bhargava et al with 394 cutaneous cyst confirms the rarity of post aural location.[11,12]

Clinical presentation usually will be non-fluctuant, asymptomatic swellings. However, if complications arise, patients can develop pain and erythema. Bhargava et al reported a misdiagnosed case of post aural epidermoid cyst.[12] Our case due to unusual presentation, was misdiagnosed initially as abscess which was managed by draining. But later due to recurrence further evaluations done and the underlying pathology identified. Reported cases emphasises on the need for complete and through evaluation both clinically and radiologically.

According to a study by Basla et al, magnetic resonance imaging (MRI) is the investigation of choice. MRI usually demonstrates Hyper intense lesion on T2-weighted imaging with diffusion restriction, suggesting an underlying cystic structure.[13] Ultrasonography is useful in differentiating cystic from solid lesions, whereas computed tomography (CT) helps to evaluate bone involvement.[14] In this case initially CT was done to rule out bone and middle ear pathology. USG was not able to pickup as the cyst was deeply seated and inflamed.[15] This case reinforces the importance of imaging modalities in all cases even if the initial presentation is straightforward.

Histologically, epidermoid cysts are lined by keratinising stratified squamous epithelium with laminated keratin. They lack rete ridges, which helps distinguish them from dermoid cysts.[11] Kerato hyalin granules are present in the granular layer. Rai et al presented a case of infected epidermoid cyst.[16] Inflammatory changes can obscure the classical presentation thus highlighting the importance of histopathological examination in establishing a definitive diagnosis.

Untreated, long-standing cyst can rupture or becomes infected. Prasad et al reported a long standing retro auricular epidermoid cyst with regional extension to scalp.[9] It is notable that secondary inflamed cyst with zygomatic root extension is not reported anywhere proving the uniqueness of the case presented. In this case

there was a possible cyst rupture leading to extrusion of contents into surrounding areas leading to local extension and secondary inflammation. The atypical presentation contributed to diagnostic confusion and a delay in definitive diagnosis. Therefore, imaging plays a pivotal role in the early and accurate diagnosis of such lesions.

The treatment of choice for epidermoid cysts is complete surgical excision.[17] In the presence of active infection or inflammation, as seen in this case, initial incision and drainage should be performed, followed by elective surgical excision once the inflammation subsides.[18,19]

CONCLUSION

Post auricular epidermis cyst with zygomatic extensions are exceptionally rare and may elude early diagnosis. Broad differentials and through evaluation is paramount in atypically recurring head and neck lesions. The role of radiological investigations notably MRI plays a indispensable role in mapping the lesion along with structuring the surgical course of action. Precise anatomical delineation and comprehensive surgical clearance is foundational for avoiding recurrence.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Oviya P, Shabna LS, Nagendran N. Post-aural epidermoid cyst: a case of diagnostic detour. Int J Otorhinolaryngol Head Neck Surg 2025;11:609-12.