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Case Series

A case series on post-auricular swellings: varied lesions with similar presentations

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ABSTRACT

The post-auricular region presents with swellings that can arise from various aetiologies. Attention to this region is lower as it is generally a cosmetically insignificant area and also most swellings from this region are slow growing. However, literature gives an account of inflammatory as well as neoplastic growths from this area with some masses being malignant in nature. In this case series, we report three patient who had symptomless, slow growing swellings behind their ear in the post-auricular region which were similar on examination. However, all three masses were reported of different diagnoses on their histopathology report. This brings to light the importance of timely investigation and treatment of swellings of the post-auricular region.

Keywords: Otorhinolaryngology, Lipoma, Cystic swelling, Post aural swelling, External ear swelling

INTRODUCTION

The post-auricular region being a non-significant area in regard to cosmetic features is an anatomic area that has been neglected until now. This has led to limited and inconsistent data on swellings of this region.[1]

Various swellings or masses have been documented from this post-auricular region which range from inflammatory and traumatic masses to benign and malignant growths.[1] This meaning that a seemingly slow growing mass cannot be overlooked and needs investigation and treatment. Further this region is close to the mastoid and skull base and so spread of infection or malignancy can lead to devastating complications.

Here we present 3 cases of patients having swellings in their post-auricular region. All three patients presented with similar swellings, however they proved to be of different diagnoses on histopathological examination.

CASE SERIES

Case 1

A 32-year-old female patient presented with a swelling behind the left ear. Patient gave a history that she noticed the swelling 2 years ago which gradually increased in size. The swelling was painless and the only symptom was intermittent itching of the skin over the swelling. There was no past history of any trauma over the region. There was no episode of any pus discharge from the skin over the swelling or local redness or tenderness in the past.

On examination, there was a single, well-demarcated, solitary, ovoid, sessile swelling over the left post-auricular region measuring 2.5×2 cm. The skin overlying the swelling was normal in colour and texture with hair over the entire swelling and the surrounding skin. There was no local rise in temperature associated with the swelling. Swelling was non-tender, firm, smooth and

mobile over the underlying structures. The swelling was fluctuant, compressible and non-pulsatile (Figure 1).

Excision of the swelling was done under local anaesthesia. The cystic nature of the swelling was confirmed during excision. The specimen (Figure 2) was sent for histopathological examination. The patient had an uneventful post-operative period with no recurrence of the lesion.

The histopathological examination revealed a single cystic soft grey-white swelling which contained yellowish gelatinous substance on cutting open. On microscopy the sections showed a cyst lined by stratified squamous epithelium with foreign body giant cells. The cyst wall contained adnexal structures, adipose tissue and skeletal muscle fibres. The histopathological diagnosis of 'dermoid cyst' was given.

Figure 1: Post-auricular swelling of case 1 (local shaving done prior to excision).

Figure 2: Specimen of case 1 after excision.

Case 2

A 28-year-old male patient presented with a swelling behind the left ear for 5 years which was increasing in size at a very slow pace over the period of 5 years. The patient had no symptoms. There was no past history of any trauma over the region. There was no episode of any pus discharge from the skin over the swelling or local redness or tenderness in the past.

On examination, there was a single, well-demarcated, solitary, ovoid, sessile swelling over the left post-auricular region measuring 1.2×1 cm. The skin overlying the swelling was normal and the swelling was seen to be inferior to the hairline of the patient. There was no local rise in temperature associated with the swelling. Swelling was non-tender, firm, smooth and mobile over the underlying structures. The swelling was compressible, non-fluctuant and non-pulsatile (Figure 3).

Excision of the swelling was done under local anaesthesia. The specimen which appeared like a solid yellow mass during excision was sent for histopathological examination. The patient had an uneventful post-operative period with no recurrence of the lesion.

The histopathological examination revealed a grey-white fibrofatty bit of tissue which was firm and congested on its cut section. On microscopy the sections showed an encapsulated tumour showing lobules of mature adipocytes separated by delicate fibrovascular septae. The histopathological diagnosis of 'lipoma' was given.

Figure 3: Post-auricular swelling of case 2.

Case 3

A 22-year-old female patient presented with a swelling behind the left ear. Patient gave a history that she noticed the swelling 4 months ago which was increasing in size gradually; initially behind the ear but slowly involving the pinna. The patient initially had an episode of pain and tenderness over the swelling which resolved simultaneously over a week. There were no further episodes of pain over the swelling. The patient was unsure about history of any trauma over the area of the swelling.

On examination, there was a single, well-demarcated, solitary, ovoid, sessile swelling measuring 3×2 cm involving the left post-auricular region and the upper part of the medial surface of the pinna. The skin overlying the swelling was tense and normal in colour and texture. There was no local rise in temperature over the swelling. Swelling was non-tender, soft, smooth and mobile over the underlying structures. The swelling was fluctuant, compressible and non-pulsatile (Figure 4).

Excision of the swelling was done under local anaesthesia. Excision re-confirmed the cystic nature of the swelling. The specimen (Figure 5) was sent for histopathological examination. The patient had an uneventful post-operative period with no recurrence of the lesion.

The histopathological examination revealed a single globular cystic tissue containing pultaceous material on cut section. On microscopy the sections showed a cyst with lining of stratified squamous epithelium. The sub-epithelium showing sebaceous glands, blood vessels and fibro-collagenous tissue with inflammatory cell infiltrate. The histopathological diagnosis of 'epidermal inclusion cyst' was given.

Figure 4: Post-auricular swelling of case 3.

Figure 5: Specimen of case 3 after excision.

DISCUSSION

The post-auricular region is the rectangular area behind the ear. The anterior border is the vertical line behind the auricle. The superior and inferior borders are formed by the temporal and sternocleidomastoid muscles, respectively. The trapezius muscle and part of the occipital bone form the posterior border. The vascular supply is from the posterior auricular, occipital and superficial temporal arteries and veins. The innervation is by the greater auricular nerve (C2/C3), the lesser occipital nerve (C2) and greater occipital nerve (C2).[1]

We present 3 cases of patients having gradually progressing swellings in their post-auricular region. None of the patients had any past history of similar such swellings. Out of the three patients, case 1 and 3 were female and case 2 was a male. All patients were of the average age of 27.33 years. Three patients had normal external ear and tympanic membrane findings. No previous surgery was performed in the post-auricular region of all the patients. Although the patients all presented with a similar appearing swelling, the histopathological reports showed contrasting diagnoses (case 1-dermoid cyst, case 2-lipoma, case 3- keratinous cyst). We further researched into the literature on the histopathological diagnoses of these cases.

Congenital skin swellings are denoted as either epidermal cysts/keratinous cysts (those containing ectoderm only), dermoid cysts (those containing ectoderm and mesoderm) or teratoid cysts (those containing all three germ cell layers).[2] These congenital lesions can occur anywhere in the body but are often located in the midline but in 1-7% may be seen on the lateral aspect of the neck.[3]

Zhao et al describe a 22-year-old male with an unusual dermoid cyst in the post-auricular region which was similar to a retro auricular lymph node.[3] Similarly, Alberici et al report a similar post-auricular swelling in a 22-year-old female patient.[4] Final diagnosis was confirmed by pathological examination of the surgically removed specimen. Histologically, dermoid cysts contain keratinizing squamous epithelium with variable dermal derivates such as hair follicles, smooth muscle, sweat and sebaceous glands, and fibroadipose tissue.[4] Dermoid cysts mainly occur in the gonads but occurrence in extragonadal sites is also seen.[3] Pryor et al studied cases paediatric dermoid cysts of the head and neck examined between 1980 and 2002 in a single institution and concluded that out of forty-nine patients, only two cases had dermoid cysts in the retro-auricular region.[5] Excisional biopsy is the choice for successful treatment and to prevent recurrent infections and further degeneration or rarely malignant transformation (squamous cell carcinoma or adenocarcinoma).[1,4] During surgery it is advised to prevent fragmentation of the cyst wall that may disrupt the integrity of the swelling,

making complete excision difficult and recurrences are common if the entire cyst is not excised.[1,3]

Lipomas are the most common type of benign soft-tissue tumours from mesenchymal origin from adipose tissue and are rarely seen in the post-auricular region with only 15% lipomas originating in the head and neck region.[1,6,7] They usually present as slow growing asymptomatic solitary swellings and may cause aesthetic concerns.[1] Microscopically they are made up of mature white adipose tissue arranged in lobules and surrounded by a fibrous capsule.[6] CT and MRI scanning can diagnose a lipoma pre-operatively however CT scan is the preferred modality.[6] Som et al state that almost all case of lipoma a CT scan can provide a definitive diagnosis.[8] Typical, in a lipoma, CT characteristics are a homogeneous, low-attenuation mass that usually measures between -50 and -150 Hounsfield units.[6] Most differential diagnoses get excluded by these low attenuation values.[8] The MRI can define the margin of a lipoma is clearly in the form of a 'black-rim', thus distinguishing lipomas from surrounding adipose tissue.[6] The treatment of lipomas is surgical excision.[1]

Epidermal/keratinous cysts are the most common cutaneous cysts.[9] These were previously known as sebaceous cysts but the term has fallen out of use; because the lipid pattern in these swellings resembled that of the epidermis more than that of the sebaceous gland.[9,10] They are dome-shaped, asymptomatic, slowly enlarging, firm to fluctuant lesions. They are usually benign but malignant change can occur rarely.[9] Further, they can recur after incomplete excision.[9] Keratinous cysts are formed by invagination and cystic expansion of the epidermis or of the epithelium forming the hair follicle.[9] They can rupture easily leading to foreign body giant cell reaction and forming 'keratin granuloma'.[9] Keratinous cysts can be further divided into either epidermoid cyst (which contain keratohyalin granules) and richilemmal cyst (which lack keratohyalin granules).[9] Excision of these cysts is the treatment of choice.[1]

Tasli et al did a retrospective evaluation of patients of post-auricular swellings in terms of demographic data, surgical method, data on the lesion, diagnostic tools, and histopathologic diagnosis.[1] They inferenced that 28.8% of masses were neoplastic, 25% were inflammatory, 42.3% were congenital and 3.8% were traumatic. The most common masses were epidermal cysts (28.8%) followed by lymph nodes (25%). Of the neoplastic masses, there were 11.5% patients of nonmelanoma skin cancer which included basal cell carcinomas and squamous cell carcinomas. Lipomas accounted for 5.7% of masses and dermoid cysts accounted for 7.6%. They conclude that even though this region does not attract attention from the cosmetic point of view, the swellings may be benign or malignant and investigations in the form of ultrasonography or other radiological modalities followed by treatment is required to prevent further growth and complications.

Our study included only 3 cases of post-auricular swellings giving three different and distinct histopathological diagnoses. Literature and studies which include more such cases give a classified list of the swellings that can occur in the post-auricular region.[1] Similar such studies are encouraged by the authors.

CONCLUSION

In this case series, we present 3 cases of patients having post-auricular swellings. The patients all presented with similar swellings; however, proved to be of different diagnoses on histopathological examination. The slow growing and symptomless masses were excised and the final diagnosis of each could only be confirmed after their histopathological examination.

Studies have shown that swellings from this region can be benign or malignant or may be due to various inflammatory or infective causes[1] and thus prompt action should be taken to prevent any disease progression. In our study, all 3 patients had benign swellings, but the same could only be confirmed after histopathology report.

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