Imaging and Review of Pre-auricular Pilomatricoma in Adult

Case Report

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ABSTRACT

Pilomatricoma is an uncommon benign skin tumor arising from the hair follicle. It usually occurs in the head and neck region and is typically found in the pediatric age group particularly girls. A 36-year-old adult male presented with a mildly tender mass in the right preauricular region. The mass became larger, and the overlying skin turned purple. Head and neck examination revealed no evidence of adenopathy, paresthesia or motor nerve deficiency. Computed Tomographic (CT) scan with contrast of the facial region were obtained. It demonstrated the lesion to be superficial to the parotid gland. The lesion was surgically excised. The patient was well post operatively. Histopathological examination of the excised specimen showed pilomatricoma. Pilomatrixoma is often misdiagnosed clinically as epidermoid cyst, sebaceous cyst, dermoid cyst, parotid lesion and infected lymph node, but a high index of suspicion and careful examination of its characteristic clinical feature can help clinicians to differentiate it from other lesion.

Key Words: Head and neck, pilomatrixoma, otolaryngology.

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INTRODUCTION

In 1880, Malherbe *et al.*[1] described calcifying epitheliomas and originally hypothesized that the lesions arose from sebaceous cysts. Forbis *et al.*[2] proposed the term pilomatrixoma, to reflect the more accurate description of a benign ectodermal tumor originating from the germinal matrix center of the hair follicle. These tumors arise most commonly in children and young adults, with approximately 45% arising before 21 years of age in a large review by Yencha, although some studies show a second peak in the elderly[3, 4]. More than 50% arise in the head and neck where they are the third most commonly excised superficial lesions, following epidermoid cysts and lymph nodes. Pilomatricomas also occur in the upper extremity, trunk, and lower extremity and have never been reported on the palms or soles, presumably because they lack hair-bearing skin.

CASE REPORT

A 36-year-old adult male presented with two months history of painless right preauricular swelling that gradually increasing in size. The swelling became painful in the last week before presentation. On examination, the mass was 2 x 1 cm, mildly tender, and had an irregular stony-hard surface with overlying reddish skin discoloration (Figure 1). There was no facial nerve dysfunction. His pinna, external auditory canals and tympanic membranes were normal. The neck ultrasound was done and demonstrated an oval shaped soft tissue focal lesion seen at the subcutaneous region of the pre-auricular region. The CT scan with contrast of the facial region was obtained and demonstrated a well defined mildly enhanced soft tissue mass seen at the subcutaneous region, the lesion to be superficial to the parotid gland Figure 2). It measures about 9.5x11x17 mm. No areas of cystic necrosis inside. This most likely represents inflamed preauricular lymph node. Amoxicillin-calvunate treatment was completed for 7 days with no response regarding the size of the mass. Ceftrixone injection for 5days was given and the mass appeared to be reduced in size after.5days later, the patient reported the lesion had grown and appeared erythematous. The patient was scheduled for surgery.

A pre-auricular incision was used to approach the mass. It was found to be stony calcified fragments. It was quite close to the skin. The mass excised completely. Histopathological examination of the excised specimen confirmed a typical pilomatricoma and noted grossly firm fragments which grayish brown in color, measuring 1.5 x 1.5 x 1 cm. in aggregate. Microscopically showed characteristic basophilic round cells forming sheets alternating with shadow cells without nuclear feature (Figure 3). His postoperative course was uneventful.

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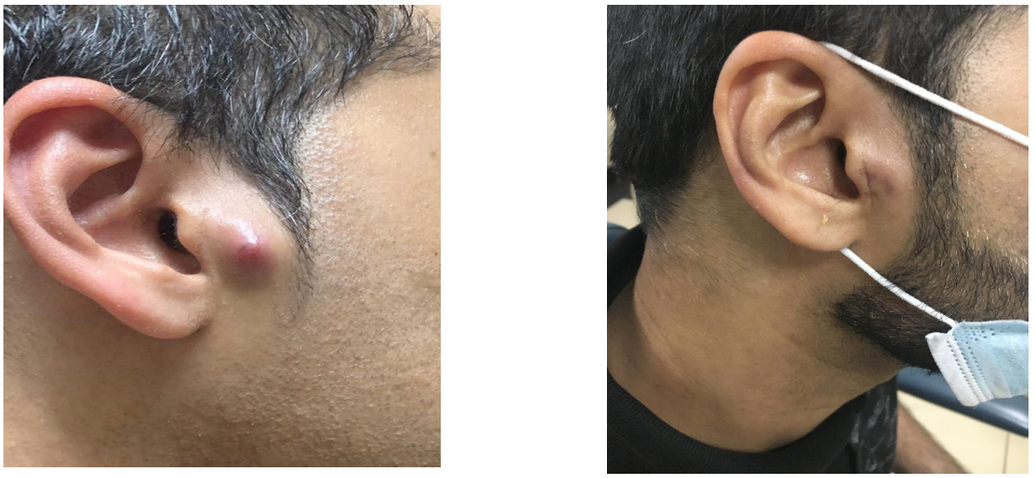
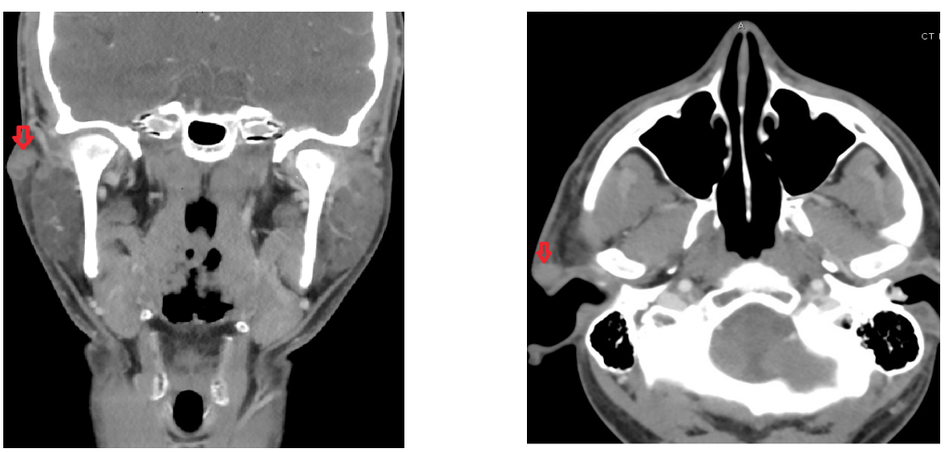


(A) (B)

Fig. 1: (A) Preoperative lateral view of a preauricular lesion. (B) Outcome three months postoperatively



(A) (B)

Fig. 2: (A) Coronal (B) Axial computed tomographic scan with contrast of the facial region. Soft tissue windows demonstrate the lesion in the pre-auricular region (red arrow).

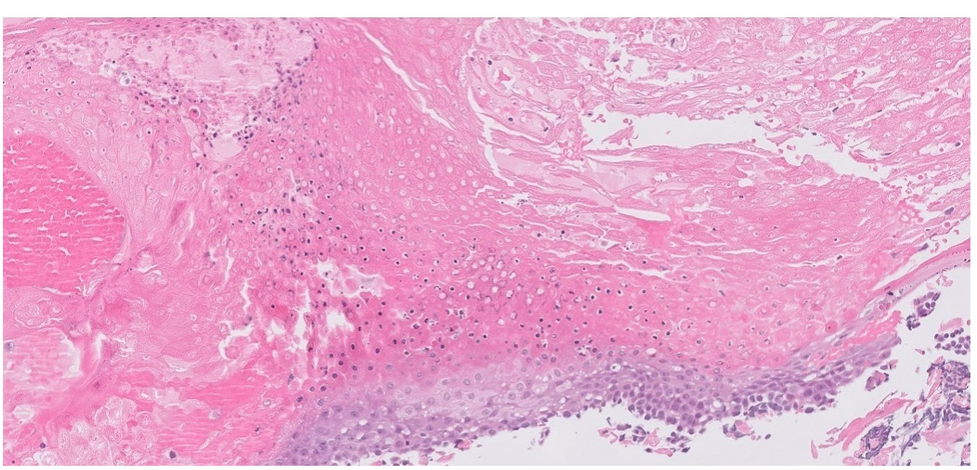


Fig. 3: Microscopic view of the tumor consisting of characteristic basophilic round cells forming sheets alternating with epithelial ghost cells

DISCUSSION

Pilomatricoma (formerly known as pilomatrixoma or calcifying epithelioma of Malherbe) is a benign calcifying tumor arising from the hair matrices with the cheek and preauricular regions being the most frequently affected sites[1, 6]. It has a predilection for females (male to female ratio of 1:1.5) and tend to occur in children[1, 6]. Clinical presentation is variable but it typically presents as a slow growing, superficial, mobile, stony-hard mass with reddish discoloration. It is usually solitary, but up to 10% may present as multiple tumors and the latter may be associated with Gardner syndrome, myotonic dystrophy, or Turner's syndrome[1, 2].

Fifty-five percent of lesions present as stony-hard masses, 74% are fixed to the skin, 42% have progressive enlargement, and only 34% have normal overlying skin[3]. Some lesions are pedunculated with surface ulcerations and redness[7]. Pilomatricoma has been found to be one of the most frequent mimicker of salivary gland tumors[5].

The diagnosis of pilomatricoma is usually suspected clinically and confirmed by histopathological examination. Preoperative imaging is rarely indicated unless its presentation poses a diagnostic dilemma. CT scan or magnetic resonance imaging can help in defining its location and its relation to the parotid gland.

Typical histopathological findings show cells in dermal nodules arranged in a circular configuration, with nucleated basaloid cells on the periphery, and enucleated shadow (ghost) cells with calcifications in the center[5]. Cytologically, it can be misdiagnosed as a malignancy when basaloid cells predominate the aspirate, more so in the absence of ghost cells[4]. Recurrences and malignant transformations are rare[1, 5].

Our case demonstrates a rare benign tumor mimicking a parotid mass at initial presentation. Complete surgical excision of the tumor is the recommended treatment. An accurate histopathologic evaluation is the most important tool for confirming the diagnosis.

CONCLUSION

Pilomatricoma at the preauricular region may pose as diagnostic dilemmas, but a high index of suspicion and careful examination can help clinicians to differentiate it from other lesions.

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