

## Case Report

# Post-auricular dermoid cyst- uncommon lesion at an uncommon site

Bhushan Kathuria<sup>1</sup>, Himani Dhingra<sup>2</sup>, Madhuri Arora<sup>3\*</sup>, Deepshikha Rana<sup>4</sup>

<sup>1</sup>Department of ENT Head Neck Oncosurgeon, Kainos Hospital Rohtak, Haryana, India

<sup>2</sup>Department of Paediatrics, DNB, FNB (Paediatric Hematoncology), Indraprastha Apollo Hospital, Delhi, India

<sup>3</sup>Department of Otorhinolaryngology, <sup>4</sup>Department of Pathology, Pt. B.D. Sharma PGIMS, Rohtak, Haryana, India

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### \*Correspondence:

Dr. Madhuri Arora,

E-mail: [drmadhuri.arora23@gmail.com](mailto:drmadhuri.arora23@gmail.com)

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### ABSTRACT

Dermoid cyst in the post auricular region is a rare occurrence, with only a handful of cases described in the literature. It is an uncommon benign midline cyst which arises in the sub-cutaneous plane, but deeper extension into bone to intra-cranial and intra-calvarial has been reported. The usual presentation is asymptomatic, but it can present as a swelling gradually progressing in size, pain following secondary infection or rupture of the cyst. Malignant transformation of the cyst is exceedingly rare but has been reported. Here we discuss a case of a middle aged female with left dermoid cyst in the mastoid region which was excised surgically and showed no recurrence in the 6 month post-operative period. It is imperative to mention that the removal of the cyst with its wall in entirety is required to prevent recurrence. The final diagnosis is made based on the histo-pathological examination of the excised specimen.

**Keywords:** Dermoid cyst, Post-aural swelling, Head and neck cyst

## INTRODUCTION

Dermoid cyst is an uncommon benign tumor, which is located proximal to the median plane of the body. Although, not a true neoplasm, it is an inclusion cyst comprising of both ectodermal and mesodermal components of the germ layers.<sup>1</sup> They have a prevalence of approximately 7% in the head and neck region, with a propensity to occur in the orbit, nose and the region of lateral part of eyebrow in over 80% of the cases. Other lesser common sites include neck, lip, palate and the area of occipital or frontal midline.<sup>2</sup> Dermoid cysts located in the post auricular region are very rare with only a handful of cases being reported in the literature.<sup>3-5</sup> We report a case of a middle aged female with a post auricular swelling which was excised surgically and discuss about its clinical significance and prognosis for the patient.

## CASE REPORT

A 30 year old female presented to the otorhinolaryngology OPD of a tertiary care hospital in Haryana with the chief complaint of a swelling in the left post auricular region for 6 months. The swelling was gradually progressive, with no associated complaints of pain, discharge from the swelling. No complaints in the left ear. On examination the swelling was 3×2 cms in size, firm to cystic in consistency, mobile, non-tender, non-fluctuant, overlying skin was normal, local temperature was not raised. There was no sinus or fistula seen. Bilateral ear examination was within normal limits. On ultrasonography, a hyperechoic lesion 3×3 cm in left post auricular region in the sub cutaneous plane was seen. Fine needle aspiration cytology was inconclusive. Surgical excision for the lesion was planned under local anaesthesia after taking proper consent. Intraoperatively, an encapsulated globular cyst was seen after raising the

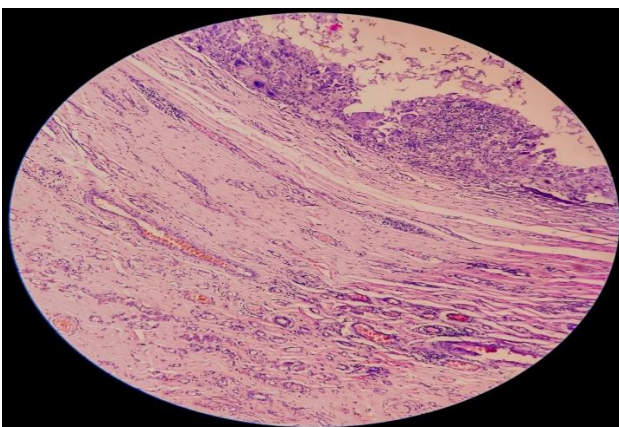
skin flap over the mastoid (Figure 1). The cyst was excised in toto measuring 4×3×2 cms. The specimen was slivered, the cut surface was found to be filled with pultaceous material with a bunch of hair seen within the cavity (Figure 2). Histopathological examination was concordant with the intra-operative finding (Figure 3). Post-operative period was uneventful with no recurrence seen at 6 months follow up.



**Figure 1: Left post-auricular swelling 3×2 cms seen, globular, cystic in consistency seen after raising the skin flap.**



**Figure 2: Slivered specimen showing bunch of hair within the cavity.**



**Figure 3: Histopathological appearance of the tumor (H&E stain), cyst wall lined with stratified squamous epithelium and reticular dermis containing sebaceous glands, hair follicles and fibrous tissue with granulomatous inflammation (40X magnification) H&E, hematoxylin and eosin.**

## DISCUSSION

Cystic malformations are broadly classified into epidermoid, dermoid and teratoid cysts. These are lined with stratified squamous epithelium which is derived from the ectodermal component of the germ layer. Dermoid cyst is characterized by the presence of skin adnexal structures such as hair follicles and sebaceous glands along with the squamous epithelium. It is differentiated from cholesteatoma and epidermoid cyst as they are characterized by the squamous lining epithelium with absent adnexal structures while teratomas are conspicuous with the presence of other abnormal tissues such as muscle, fat, bone, cartilage.<sup>6</sup>

Dermoid cysts can occur in any place in the body. They are most commonly seen in the gonads, followed by extragonadal sites along the median and para-median planes of the body. Head and neck involvement is seen in 7% of cases with post auricular involvement being extremely rare with only a handful of cases being reported.<sup>2</sup> Thereby, making the clinical diagnosis and evaluation of the same a difficult one. It was in 1866, when the 1st case of dermoid cyst involving the mastoid was reported by Toynbee.<sup>7</sup>

As seen in our case, the dermoid cysts may grow in size, rupture spontaneously or may develop secondary infection. It is thus endorsed that even cysts which are asymptomatic should be excised.<sup>8</sup> Local recurrence is a common occurrence unless the entire cyst wall is removed. It is noted that the recurrence rate in case of an infected cyst following excision is as high as 20%.<sup>9</sup> Therefore excision of the cyst should be done meticulously ensuring removal of the entire cyst wall. Reports of intracranial and intracalvarial extension of the tumour has been reported as singular events by few authors, in which case proper radiographic investigation involving contrast enhanced computed tomography of head needs to be done for the patient preoperatively.<sup>10,11</sup>

In the head and neck region, the prognosis of dermoid cyst is mostly favourable. Malignant transformation in a long-standing case of dermoid though extremely rare has been reported. Squamous cell carcinoma (SCC) developing in a dermoid cyst located intra-cranially has been reported by Tsugu et al.<sup>12</sup> Similarly in a case of a sublingual dermoid cyst as reported by Devine et al malignant transformation to SCC was noted.<sup>13</sup>

In conclusion, we would like to note that although dermoid tumors are a rare occurrence in the post auricular region they should be kept as a possibility while making a diagnosis for the post auricular swelling. Surgical excision is quite effective, with low recurrence rate if done properly.

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