

A giant post auricular cutaneous horn: A rare case report

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ABSTRACT

A cutaneous (cornu cutaneum) horn is a rare lesion which usually appears in sun-exposed areas and is very uncommon. It is a conical projection of hyperkeratotic epidermis and can be from a few millimeters to several centimeters in length. Here, we present the case of a large “horn” of long duration, arising in the right postauricular region in a 32-years-old male. The lesion was carefully examined, evaluated, complete excision was done with adequate margins and the defect was closed with primary closure after mobilizing the skin flaps adequately. Histopathologic examination showed the skin with underlying epidermis and extensive hyperkeratosis with no malignant cells seen at the base of the horn. It is important to mention that horn itself, is not the most important issue, but rather the underlying condition, which may be malignant also, needs to be ruled out and addressed.

Keywords: *Cutaneous horn, Giant, Keratosis, Malignancy.*

The cutaneous horn, known by the Latin name Cornu cutaneum is an excrescent lesion of conical morphology. The cause of cutaneous horn is still unknown although it is found to be formed by retention of the horny layer. Mostly, it is yellow-white in color, straight or curved and has twisted morphology that varies from a few millimeters to several centimeters in length. They usually appear on surfaces exposed to solar radiation, such as the face, neck, shoulders, and chest. However, they may also appear in other locations such as the legs or palm of the hands [1]. Cutaneous horns are rare and more common in light skin person and occurrence in dark skin person are even rarer. No consistent sex pattern has been demonstrated [2].

The term “cutaneous horn” is a clinical, not true pathologic diagnosis and can occur in association with, or as a response to, a wide variety of underlying benign, pre-malignant, and malignant cutaneous diseases [3,4,5]. The base of the horn may be flat, nodular, or crateriform. No clinical features reliably distinguish

between benign and malignant lesions and for appropriate histopathological diagnosis, this lesion should undergo biopsy at the base of the horn [3,6,7,8]. We report the case of a giant post-auricular cutaneous horn on the post-auricular region which is sun-exposed area, in an Indian male patient.

CASE REPORT

A 32-year-old male from Rajasthan who is a farmer by occupation requested a primary medical evaluation for a mass lesion behind the right ear. The lesion was present since childhood and showed a gradual increase in size. There was a rapid increase in size since the last 1 year with no associated symptoms like pain, irritation or any other complaints (Fig. 1). There was no history of loss of weight or appetite and no family or personal history of cutaneous tumors.

General physical examination and vitals were essentially within normal limits. Local examination revealed a 4cm long

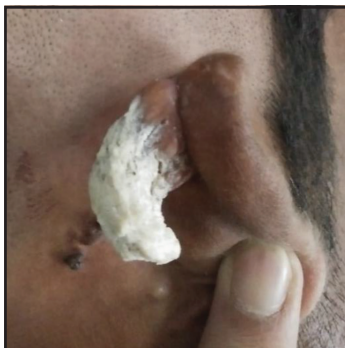


Figure 1: A 4cm x 2cm x 2 cm mass behind the right ear

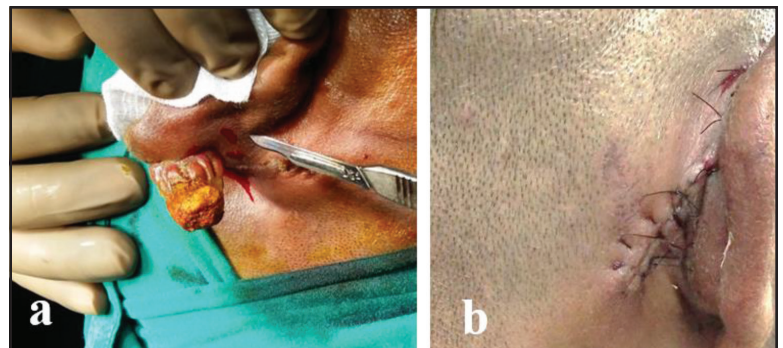


Figure 2: (a) Surgical excision with (b) primary closure of the lesion



Figure 3: A 4x2x2 cm excised lesion

and 2cm x 2 cm wide exophytic mass, yellowish in color, with a hyperkeratotic surface and erythematous and infiltrated base in the right post-auricular region. No cervical, submandibular or supraclavicular nodes were enlarged.

The patient was admitted to the hospital. A set of routine preoperative investigations including complete blood counts, coagulation profile, and renal function test, and random blood sugar, serology for HIV, HbsAg and chest X-ray were done and found normal. A proper preoperative evaluation and planning for the operation were done.

Surgical excision in the form of wide local excision of the lesion was done with adequate margins of resection, flap mobilization and primary closure (Fig. 2). Histopathological evaluation of the excised specimen (Fig. 3) grossly revealed a 4x2x2 cm single, greyish-white, conical tissue, hard in consistency with few friable areas. Microscopic examination (Figure 4) revealed skin with underlying epidermis showing extensive hyperkeratosis consisting of thick acellular keratin material with an epidermal inclusion cyst. The base of the lesion and all the margins were negative for malignancy.

Sutures were removed on the postoperative day 8 with healthy skin margins and a healthy postoperative wound. Subsequent follow-ups at postoperative day 8th, 1 month, 6 months and 1 year show no clinical recurrence and a healthy post-operative site.

DISCUSSION

A cutaneous horn is a dense hyperkeratotic conical projection of the skin arising from an unusual cohesiveness of keratinized material. It shows resemblance to an animal horn grossly, but lacks a bony core, histologically consisting of concentric layers of cornified epithelial cells. Cutaneous horns may arise from any part of the body, and only 30% arise from the face and scalp. They are thought to result from underlying benign, premalignant or malignant pathology in 61.1%, 23.2% and 15.7% of cases respectively [1]. In 1588, the earliest well-documented case of *Cornu cutaneum* was of Mrs. Margaret Gryffith, an elderly Welsh woman of London. A showman, who advertised it in a pamphlet, exhibited her for money. However, earliest observations on

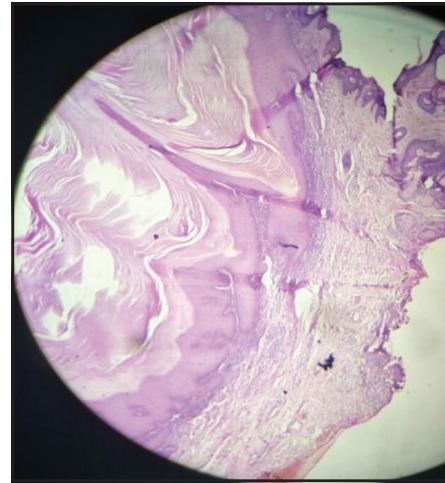


Figure 4: Microscopic examination of the lesion

cutaneous horns in humans were described by the London surgeon Everard Home in 1791 [2].

The cutaneous horn is formed by compacted keratin and can arise from a wide range of benign, premalignant or malignant underlying processes. Prompt diagnosis of the underlying lesion with a biopsy is vital [9]. The distribution of cutaneous horns usually occurs in sun-exposed areas, particularly the face, pinna, nose, forearms and dorsal hands [10,11]. Tarik *et al.* revealed a case of sebaceous horn in a 77-year-old female who had a hyperkeratotic curved growth on the right side of the forehead, of approximately 14 cm in length and about 8 cm base diameter¹⁰. Literature reveals the case of giant cutaneous horn in an African woman, which was of 6 cm in height and 3 cm base diameter. Other described cases were in a man which was of 3 cm and the third one in a woman of 84-years-old which was situated on the dorsum of her right hand approximately 7 to 8 cm in length [11]. Some prominent cases were described in the literature like Madame Dimache called Widow Sunday, a French woman aged 76 years living in Paris in the early nineteenth century had a horn on her forehead which was of approximately 24.9cm [12]. Nath AK *et al.* reported a cutaneous horn in a 65-year-old man of 3 x 3 cm size on the chest with underlying squamous cell carcinoma [13].

A cutaneous horn is a clinical, not true pathologic diagnosis and can occur in association with, or as a response to, a wide variety of underlying benign, pre-malignant, and malignant cutaneous diseases. Benign lesions associated with cutaneous horns include angiokeratoma, angioma, benign lichenoid keratosis, dermatofibroma, epidermal nevus, epidermolytic acanthoma, fibroma, granular cell tumor, inverted follicular keratosis, pyogenic granuloma, sebaceous adenoma, seborrheic keratosis, and verruca vulgaris. Lesions with premalignant or malignant potential that may give rise to cutaneous horns include adenoacanthoma, actinic keratosis, arsenical keratosis, basal cell carcinoma, Bowen disease, Kaposi sarcoma, keratoacanthoma, malignant melanoma, Paget disease, sebaceous carcinoma and squamous cell carcinoma [14].

A study done in the past concluded that cutaneous horn is associated with a malignant or premalignant base and is more common in patients with a past history of other malignant or

pre-malignant lesions [12]. Kitagawa *et al* found that out of the 643 cutaneous horns, 39% of cutaneous horns were derived from malignant or pre-malignant epidermal malignancy [14]. Spira *J et al* in their study found that 44% of patients had an underlying malignancy. Malignancy is reported to occur in 16–20% cases, with squamous cell carcinoma being the most common type [15]. In our case report of a giant post auricular cutaneous horn, we found all surgical margins were free of any malignancy. But suspicion of malignancy was always taken into consideration.

CONCLUSION

After reviewing the cases of cutaneous horns presented in various literature, we can declare that the present case of a cutaneous horn is one of the biggest cutaneous horns recorded. Also, it is important to mention that the important issue is not the horn itself which is dead keratin, but rather the underlying condition, which may be malignant and should be always taken into consideration.

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