

Case Report

Squamous Cell Carcinoma Arising on the Background of Cornucutaneum

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Abstract

Cornu cutaneum is a cone shaped hyperkeratotic projection above the skin surface resembling an animal horn. This may be associated with broad spectrum of morphology at base i.e. benign, premalignant, or malignant cutaneous lesions. Here we present a 86-year-old female patient with a cutaneous horn at scalp with squamous cell carcinoma arising from ulcerated base. This case report aims to highlight that cornu cutaneum can occur in association with malignancy. Also, it highlights the importance of careful management in such scenario. Wide local excision of the growth was done. Histopathological examination showed squamous cell carcinoma with negative surgical margins.

Keywords: Cornu cutaneum; Cutaneous horn; Squamous cell carcinoma.

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Introduction

Cutaneous horn is a cone shaped hyperkeratotic projection above the skin surface resembling an animal horn. It is a relatively unusual lesion, also known as "cornu cutaneum" in Latin.^{1,2} The earliest documented case of cutaneous horn was that of an elderly female in London who was displayed commercially as an anomaly of nature in 1588.³ There were numerous other accounts of cornu cutaneum in the sixteenth and seventeenth centuries. The London surgeons Everard Home and John Hunter are credited with the characterization of cutaneous horns as a medical disorder in the late eighteenth century.⁴ Cutaneous horn occurs very infrequently in association with malignancy.⁵ Cutaneous horns

are thought to arise from underlying benign, premalignant, or malignant tumour in 61.1%, 23.2%, and 15.7% of cases, respectively.⁶ Cutaneous horn is not a pathological diagnosis. Thus, the important thing while dealing with this lesion is knowing the exact nature of the lesion at its base.⁷

Case Report

An eighty-six years old female came with swelling over scalp for last 5 years which gradually increased in size. There was no specific history of any habits. Her laboratory investigations were within normal limits except for mild iron deficiency anaemia. On examination, a horn like projection was seen over scalp measuring 6.5 cm in length. It was ulcerated



at base where it showed a proliferative lesion measuring 1.5 cm in diameter. A clinical diagnosis of sebaceous horn with ulcerated base was made. (Figure 1 a,b).



Fig. 1a & 1b: Clinical images showing cutaneous horn with a soft tumour at the base of thick corn.

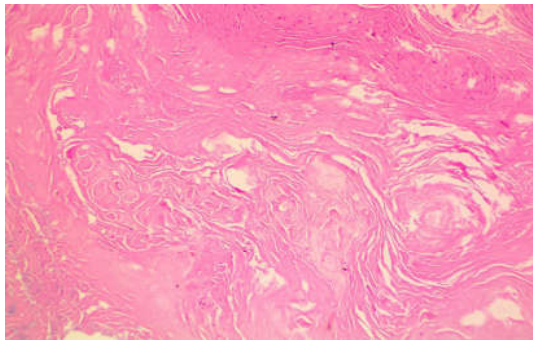


Fig. 2: H&E stained sections from cornu cutaneum showing thick keratotic mass (40X).

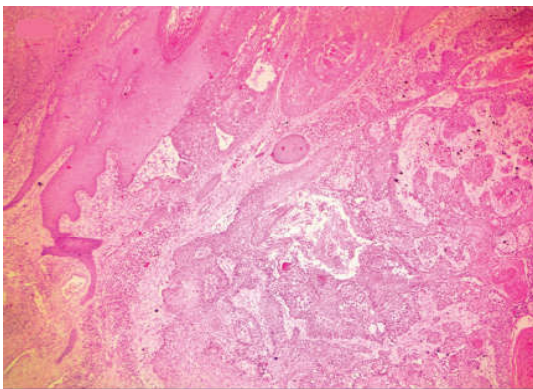


Fig. 3: H&E stained sections showing squamous cell carcinoma arising at the base of cornu cutaneum, seen at upper left corner (40X).

The corn was excised along with its base and adequate margins. On gross examination, the excised cutaneous horn measured 6.5x3x2.4 cm. On cut section, the mass was hard to cut and showed keratotic mass for most of its height. The base was ulcerated, with grey-white tumour at base measuring 1.5 x 1.5 x 1 cm.

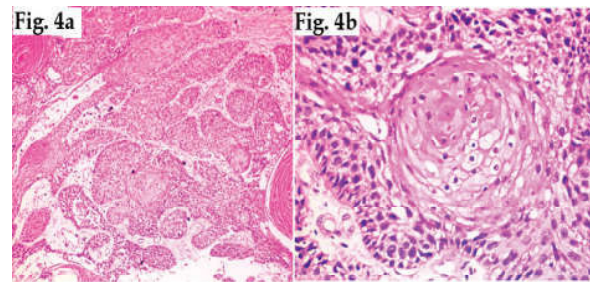


Fig. 4: H&E stained sections showing typical squamous cell carcinoma {a)- 10 x, b) 40 x }.

On microscopy, H&E stained sections showed a mass showing hyperkeratosis, acanthosis, parakeratosis and papillomatosis. The squamous epithelium showed foci of vacuolated cells - koilocytic cells. The thickness of keratotic mass was multifold of the viable epithelium. (Figure 2) The sections from the base showed a well-differentiated squamous cell carcinoma with infiltration of underlying soft tissue by squamous cells exhibiting nuclear atypia, mitoses and many keratin pearls. Focal acantholysis was seen. The intervening stroma showed diffuse leukocytic infiltration. (Figure 3,4). Thus, a diagnosis of well-differentiated squamous cell carcinoma arising from the base of cornu cutaneum was made. Inked soft tissue surgical margin and peripheral skin surgical margin were free of tumour.

Discussion

A cornu cutaneum is a protrusion arising from the skin consisting of cornified material prearranged in the shape of a horn.⁸ Cutaneous horns though resemble animal horns on physical appearance but are histologically different. The animal horns consist of hyperkeratotic epidermis, dermis, and centrally positioned bone. No such axially positioned bone is seen in human horns. Also, no cystic structures lined by trichilemmal type epithelium are seen in animal horns.⁹ Over 30% of these lesions are found in the head and neck region.¹⁰

These horns may arise from underlying epidermal tumors, either benign or malignant.⁸ It is not a true pathological diagnosis.¹¹ The histological appearance of the basal layer of the cutaneous horn ranges from that of seborrheic keratosis to squamous cell carcinoma.³

The matter of concern is the underlying condition with cornu cutaneum, which may be benign conditions (histiocytoma, seborrheic keratosis, viral warts, molluscum contagiosum, verrucous epidermal nevus, inverted follicular

keratosis, etc), premalignant conditions (solar keratosis, arsenical keratosis), Bowen's disease, or malignant conditions (squamous cell carcinoma, rarely sebaceous carcinoma, basal cell carcinoma, metastatic renal carcinoma, Kaposi's sarcoma, or granular cell tumor). Most commonly, they are single and the most common associated lesion is seborrheic keratosis.¹² Largest study of cutaneous horns was reported by Yu et al (643 cases).⁶ According to them, 61% of cutaneous horns were derived from benign lesions, rest were associated with malignant or premalignant lesions.⁶

Bart et al. reported 44% of the patients of cornu cutaneum associated with malignancy.⁷ Squamous cell carcinoma is the commonest malignancy associated, reported in 94 % cornu cutaneum cases with malignant base.^{11,13} Actinic keratosis was reported as the most common lesion associated with horn base in a study of 230 horns.¹⁴ Since Actinic keratosis is the commonest entity at the horn base, having potential for progression to invasive SCC, a careful pathological study of horn base is advocated.¹⁵ Horns associated with likely invasive SCC at the base should be identified and receive priority intervention.¹⁶

Features associated with malignant or premalignant lesion at the base of a horn consist of age, gender (male>female), sun exposure, and geometry.¹¹ Wide base horns are more likely to display a malignant base.⁶ Findings from a study by Pyne J. et al indicate that when presenting as cornu cutaneum, Squamous cell carcinoma most likely have a wider base; does not have terrace formation; have erythematous base; and may be painful.¹⁶ In our case, however, the height of the cutaneous horn (6.5 cm) was larger than the diameter of the base (1.5 cm), indicating that squamous cell carcinoma may show a cutaneous horn that may not have a wider base. Histopathological examination of the corn base is must to rule out associated malignancy.⁶

The age group in which cutaneous horn is most prevailing is above 50 years of age, for both sexes and the average age for the occurrence of lesions in patients with premalignant and malignant lesions is around six years more than that of patients with benign alterations.⁶

In our case an elderly patient presented with a cutaneous horn arising from scalp. Wide local excision was done. Histopathology revealed squamous cell carcinoma. Margins were free of tumour.

Though cutaneous horns can be removed by simple detachment and cauterization of the base,

due to their frequent association with premalignant or malignant lesions, it is advised to perform a full-thickness, wide local excision with an adequate margin for histopathological examination.¹¹

A number of primary lesions are associated with cutaneous horns, but squamous cell carcinoma should always be given priority in the differential diagnoses. In the above reported case, the cutaneous horns had an underlying malignant lesion which could have been missed. A detailed examination is required to arrive at the proper diagnosis. Wide, full-thickness excision with adequate margin should be the treatment of choice to enable detailed histopathological examination.

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