

## **Keratotic Dermal Outgrowths: A Unique Surgical Enigma**

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An 85-year old farmer came to our office with a painless, gradually progressing proliferative lesion close to his left pinna. After ignoring it for a long 22 years, its unexpected rapid growth over last month made him suspicious of cancer and persuaded him to sought medical attention. It started as a small pea-nut size swelling that spontaneously discharged jelly-like whitish substance which encrusted over years to give the present pedunculated appearance. There was no history of any sort of trauma, bleeding or itching at that site. He had no addictions in the past. His past and family histories were insignificant.

General physical and systemic examinations were within normal limits. Local examination revealed a 1 x 1 cm globular non-tender soft-tissue swelling situated on the left temporal scalp with two distinct horn-like structures bifurcating from it. It was free from the underlying structures. [Figure 1] There were no similar lesions elsewhere in the body. There was no associated significant peri-auricular or cervical lymphadenopathy, and the ipsilateral external ear examination did not reveal any abnormality.



**Figure 1:** Cutaneous horn of scalp. Note, the nodular soft-tissue lesion with bifurcating pedunculated projections simulating a typical animal horn.

His routine haemogram as well as X-rays of the skull and the chest were all normal. Mantoux test was negative. Thus, an excisional biopsy was subsequently performed under local anesthesia with a 1 cm margin all around and the wound was closed primarily. The microscopic evaluation revealed basal epidermal atypia and palisading of basal cells without any granulomas. Presence of solar elastosis suggested prolonged sun exposure. However, the squamous epithelial cells did not show pleomorphism or keratinisation.

### *Question*

1. What is the probable diagnosis?
  - a. Cutaneous tuberculosis
  - b. Squamous cell carcinoma
  - c. Cutaneous horn
  - d. Giant viral wart

### *Answer*

c. The described clinico-pathological features are consistent with Cutaneous horn with associated actinic keratosis. The patient recovered well postoperatively. He is under regular follow up since last six months and has no recurrence.

## Discussion

Cutaneous horns, also known as cornu cutaneum, are conical projections typically consisting of densely cohesive hyperkeratotic material with morphological resemblance to animal horns, however, without any bony core.<sup>1-4</sup> Its earliest documentation dates back to 1588 in an elderly Welsh lady named Mrs. Margaret Gryffith.<sup>1-3,5</sup> These lesions are frequently seen in sun-exposed areas like face, neck, hands and forearm.<sup>3</sup> Usually occurring after fifth decade of life, they can vary in size, shape and number.<sup>2</sup> They are rare in Asians and Africans, but commoner in Caucasians.<sup>5</sup> This could be attributed to the protective nature of melanin pigment in the former. Though the exact reason remains elusive, chronic solar radiation exposure, immunodeficiency, and viral warts have been implicated in its pathogenesis.<sup>5</sup>

As such, over 60% of the lesions are benign.<sup>3</sup> However, an underlying malignancy, should always be kept in mind while evaluating an elderly patient having a large wide-based cutaneous horn with tender, erythematous, ulcerated or nodular base exhibiting fixity to the deeper structures, especially in presence of significant regional lymphadenopathy.<sup>1,2,5</sup> Such cases mandate detailed evaluation using advance imaging technologies to tailor further decisions.

Cutaneous horn has several close differential diagnoses; it needs a keen eye for their

clinical distinctions, as follows. Pilomatricoma usually presents in the first two decades of life and has a subcutaneous lesion with a reddish blue hue on it. Pyogenic granuloma, a lobular capillary haemangioma, is a rapidly growing benign lesion generally seen in young adults with history of local trauma, has bright red appearance, and bleeds easily on touch. And, cutaneous tuberculosis has varied non-specific dermal presentations like papules, vesicles, or pustules with erythematous rash and associated matted lymphadenopathy. However, it should be underscored that the unique distinguishing feature to diagnose cornu cutaneum is its horn-like encrusted projections.

It is also important to know that a typically benign-looking cornu cutaneum may harbor a pre-malignant condition (commonest being actinic keratosis, as in this case) or even sub-clinical malignancy (commonest being squamous cell carcinoma), and vice versa.<sup>2,4,5</sup> Though the diagnosis is primarily clinical, these issues potentiate its diagnostic enigma.<sup>3</sup> Therefore, considering its deceptive appearance, it is recommended that all cutaneous horns must undergo a full-thickness excision with adequate tumor-free margins of at least 1 cm, and should be subjected to dermato-pathological evaluation for better prognostication of the disease.<sup>1-5</sup>

## References

1. Singh P, Nathani D, Ranjan S, Issar R. A Giant Cutaneous Horn Projecting from Verrucous Carcinoma of Buccal Mucosa: A Rare Case Report. *J Clin Diagn Res* 2017 Mar;11(3):ZD04-ZD05.
2. Soriano LF, Piansay-Soriano ME. A rapidly growing giant cutaneous horn on the chest. *J Dermatol Case Rep* 2015;9(4):113–115.
3. Copcu E, Sivrioglu N, Culhaci N. Cutaneous horns: are these lesions as innocent as they seem to be? *World J Surg Oncol* 2004 Jun 3;2:18.
4. Hermida Pérez JA, Bermejo Hernández A. Cuerno cutáneo, queratosis actínica y carcinoma espinocelular. A propósito de un caso clínico [Cutaneous horn, actinic keratosis and squamous cell carcinoma. Presentation of a clinical case]. *Semergen* 2013;39(2):113–116.
5. Gupta AK, Arora V, Gupta S, Bhagat T, Aggarwal A. Cutaneous Horn — Appearance May be Deceptive. *NJLM* 2015 Apr, Vol 4(2): 10-12.