

# Atypical Giant Cutaneous Horn with Previous Insult: Two Cases with Review

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**Abstract:** Cutaneous horns, or cornu cutaneum, are uncommon, keratinized protrusions typically found on sun-exposed skin areas. This article reports two cases of giant cutaneous horns located in covered body areas deltoid and thigh regions from a tertiary healthcare center in northern India. The first case is a 28-year-old female with a progressively enlarging horn on her right arm following a burn injury, and the second case is a 50-year-old male with a horn on his thigh following recurrent abscesses. Despite the usual benign nature of cutaneous horns, their potential for malignancy necessitates thorough histopathological examination. These cases highlight the rare occurrence of giant cutaneous horns in non-sun-exposed areas, emphasizing the need for further research into their etiopathogenesis.

**Keywords:** Giant Cutaneous Horn, Non-Sun- Exposed Body-parts, Dermatology, Histopathology

## 1. Introduction

Giant Cutaneous Horn is an elongated large size lesion projecting from skin with broad base. Their outer appearance resembles an animal's horn. The horn is a nodule of dense keratin. Usually, the horns appear on body parts frequently exposed to sunlight, such as the nose, neck, and shoulders. The horns are mostly benign in nature but not all. Thus, the horns have potential for malignancy and therefore, the histopathological assessment of the effects is recommended. The purpose of this article is to report two rare cases of giant cutaneous horns occurring in non-sun-exposed body areas and to review the literature on the etiopathogenesis of such lesions.

## 2. Method

The study includes clinical examination, histopathological assessment, and a review of existing literature. Wide local excision and histopathological examination were conducted for both cases to rule out malignancy and determine the nature of the lesions. The diagnosis of the cutaneous horns becomes tricky because there is no definite clinical feature that can definitively distinguish between the benign and malignant lesions. They are diagnosed by histological examination of their base to rule out malignancy. On histological examination, orderly horizontal parallel thick layers of keratin indicate a possible benign cutaneous horn, whereas rapid erratic lesion growth is usually associated with a malignant horn. Definite treatment of cutaneous horn is complete wide margin excision. On a case-to-case basis, a deep partial biopsy may be taken to establish the diagnosis. Acanthosis is often noted in excised biopsy.

## 3. Case Summary

This article highlights the uncommon presentation of giant

cutaneous horns in non-sun-exposed areas, contributing to the understanding of their etiology and the importance of considering a differential diagnosis for similar lesions.

**Case 1:** A 28-year young female patient came to Surgery OPD with chief complaint of protuberance over right arm on posterolateral aspect just distal to shoulder joint. For the past year, the protuberance size was continuously increasing, and the patient was feeling the sensations of pain, itching and burning sensations at the site. The patient reported a history of burns in that area about twelve years back. Wide local excision was performed with split skin grafting. A tissue from the base was taken and sent for histopathological examination (HPE). [see Figures 1A & 1B]

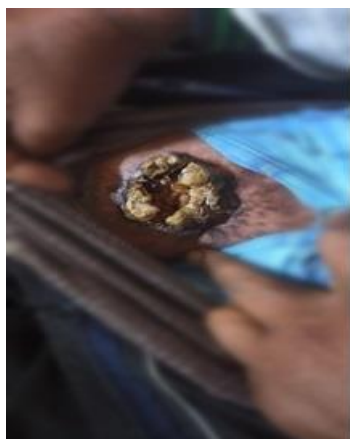


Figure 1 (A): Giant Cutaneous Horn



**Figure 1 (B):** Excised Giant Cutaneous Horn

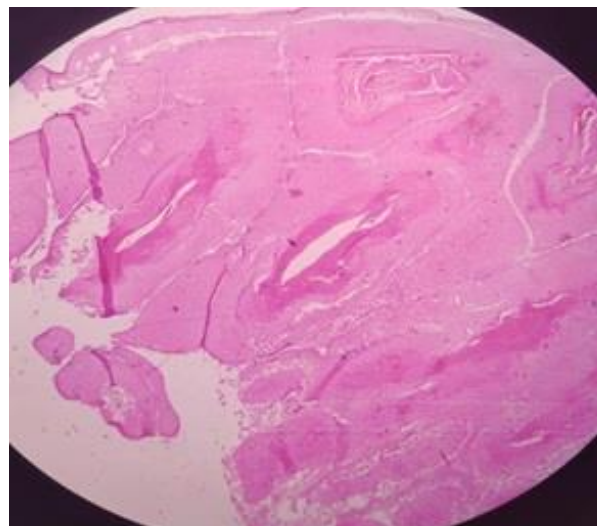
**Case 2:** A 50-years old male patient came to Surgery OPD with chief complaints of protuberance over right anterior region of thigh inferior to inguinal crease. For the past one and half years, the protuberance size was continuously increasing, and the patient was feeling the sensations of pain and itching sensations at the site. Patient reported history of recurrent abscess at same location. Wide local excision was performed with split skin grafting. A tissue from the base was taken and sent for histopathological examination (HPE) [see Figure 2].



**Figure 2:** Giant cutaneous Horn over Groin region

#### **Histopathological Findings in the cases:**

On histopathological examination, one skin covered piece of horn measuring approximately 8 x 6 x 3.5 cm in above cases was received. The length of horn was approximately 5-7 cm. Diameter of base was approximately 2-2.5 cm. Multiple sections examined showed hyperkeratotic, parakeratotic, acanthotic stratified squamous epithelium with papillomatosis. Underlying sub epithelium showed dense chronic inflammatory infiltrate. No evidence of malignancy. All margins were unremarkable. Features were suggestive of Verruca Plana. [See Figure 3].



**Figure 3:** Histopathology of Giant Cutaneous Horn

#### **4. Discussion**

Cutaneous horns develop from an excessive growth of keratin on the skin, particularly in very sun-damaged areas. Older patients in their sixties and seventies are the most susceptible. No gender difference has been observed in occurrence of cutaneous horns, however, men are at higher risk for malignant horn [1]. Skin colour also affects the occurrence of the horns as they are more common in people with fairer skin (skin phototype 1 and 2) [2]. The bases of the horn have equal chances of being benign or premalignant/malignant. Usually, the horns are composed of seborrheic keratosis, viral warts (due to human papillomavirus), actinic keratosis and squamous cell carcinoma (associated with exposure to the sun and other sources of UV radiation) [3].

A cutaneous horn can be surrounded by normal skin or have a border of thick skin. The side of horn may be stepped or oyster shell-like with horizontal ridges. The horns can have a flat base, crated base or a protruding base. Inflammation may be present, due to recurrent injury. Typically, the horn is taller than twice the width at the base. It may vary from a few millimeters to several centimeters in size [4]. A patient can have a single horn or multiple horns at a time. The growths may be harmless, precancerous, or cancerous. In extremely rare cases, an underlying cyst may be present. The pathophysiology of giant cutaneous horn is not completely defined. It is believed that continuous insult of epidermis layer by UV radiation leads to uncontrolled proliferation of keratin in presence of undefined risk factors. The cutaneous horn arises from epithelial layer, but it is the underlying cause that is of clinical significance. Premalignant causes associate includes actinic keratosis, histiocytoma, molluscum contagiosum, verruca vulgaris. However, in our cases presented in this article, the giant cutaneous horns developed in body parts (deltoid and thigh regions) which are usually not exposed to direct sunlight.

#### **Criteria for Classification of Cutaneous Horn as Giant:**

- 1) Base should be >20 mm
- 2) Height: base ratio > 3:1
- 3) The horn should consist of true keratin rather than fibrinous crust.

Clinical examination is quite helpful for making diagnosis of cutaneous horn, but it is very necessary to rule out malignancy before going definitive treatment of cutaneous horn. Cutaneous horns may be present as nonmalignant dermal manifestation like nevi, seborrheic keratoses, viral warts, viral skin infections and psoriasis. Very rarely keratoacanthoma may be manifested. Such growth is relatively common and often benign. Malignant lesions may be squamous cell carcinoma, basal cell carcinoma and melanoma. So, it is always recommended that cutaneous horns should be excised with wide margins in periphery as well as vertical. Raw areas can be covered by skin graft or local flap depending on demand of reconstruction. Excised specimens should be sent for histopathological examination.

## 5. Conclusion

These cases underscore the rare occurrence of giant cutaneous horns in non- sun -exposed areas, which challenges the traditional understanding of their etiology being solely related to UV radiation. Pathogenesis of Giant Cutaneous horn is debatable, but it is believed that unregulated epidermal cell proliferation by insult like UV radiation leads to appearance of giant horn. Further research is necessary to explore other potential risk factors and the role of histopathological examination in the diagnosis and management of such lesions.

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