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Case Report

Distinctive presentation of pinna squamous cell carcinoma as devil cutaneous horn

Tanvir Hussain[1]*, Jony Salazar[2], Mohosana Khanam[1], Sarwar Attique[1], Enas Alaqeab[1], Abdul Matin[1]

[1]Department of Otolaryngology, Head and Neck Surgery, Limerick University Hospital, Ireland
[2]Deparment of Histopathology, Limerick University Hospital, Ireland

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***Correspondence:**
Dr. Tanvir Hussain,
E-mail: tanvir_hussain14@yahoo.com

ABSTRACT

Cutaneous horns are considered rare clinical elements defined by compact exophytic keratin growth typically resembling an animal's horn. They are prone in the body's sun-exposed areas, arising from various benign, malignant and premalignant conditions. Therefore, this paper reflects a reported case for the 75-year-old male diagnosed with cutaneous horn in his right pinna. The histopathological evaluation confirmed a squamous cell carcinoma (SCC). The case has equally stressed why histopathological assessment or examination is necessary to determine the condition's nature and proper management. The patient was taken through a wide local excision with a comprehensive assessment and evaluation and the multidisciplinary discussion with an oncology and head expertise team. From the case, it is necessary to practice vigilance and caution in diagnosing and managing the condition from unusual places like the ear.

Keywords: Cutaneous horn, SCC, Pinna, Histopathology, Keratinous lesion, Sun-exposed areas

INTRODUCTION

Cutaneous horns or cornu cutaneurn refer to rare keratinous growths developing on the skin surface. They characteristically resemble horns of an animal, mostly constituting compact keratin.[1] Typically, they develop from benign lesions, especially seborrheic keratosis. However, premalignant and malignant conditions are also some of the sources of these materials, commonly actinic keratosis and SCC.[2] One of the challenges and clinical concerns with the management of cutaneous horns is to determine or differentiate if the lesion is malignant or benign. It is distinctive reporting these lesions in areas exposed to sunlight-like hands and the face, but the ear's pinna cases are rare.[3] The subsequent case is a unique SCC presentation as a cutaneous horn in a 75-year-old man over the right pinna.[4] This is one of the cases detailing why histopathological assessment and thorough evaluation are necessary in such cases for properly design and plan appropriate treatment.[5]

CASE REPORT

This case involved 75-year-old male registered at the ENT outpatient department at Limerick university hospital for evaluating the cutaneous horn developing on the right pinna. The subjective assessment reports no history of pain, irritation, bleeding and discharge from the developing lesion. A 2.5 cm curved yellowish-orange horn has been noted from the physical examination, firmly consistently in the right pinna's helix region. An induration of around 1 mm is confirmed on the base of the lesion, although regional lymphadenopathy was not reported. No further symptoms are presented that could have suggested metastasis.

The patient was taken to the outpatient department treatment room for surgical excision biopsy of the lesion under local anesthesia, with the tissue forwarded for further histopathological evaluation. This evaluation noted invasive SCC developing from the cutaneous horn base, with no other conditions confirmed. The multidisciplinary team (MDT) advised wide surgical excision. Patient underwent with a wider local excision for ensuring clear margins and preventing recurrence. The patient was tolerant to the procedure with no complications post-operatively.

The patient tolerated the procedure well, and no complications were reported post-operatively.

From the first image, a cutaneous horn has been confirmed. This has been presented as the yellowish-orange excrescence, appearing as a curved and horn-like item on the patient's upper pinna in the right area. The histological slide is presented in the second image, indicating how the lesion is keratinous in nature. There is evidence of invasive SCC within the base. This keratin layer is both compact and thick, a common feature of the cutaneous horn. On the other hand, the underlying carcinoma showing the invasive and cellular atypia properties.

Figure 1: Cutaneous horn.

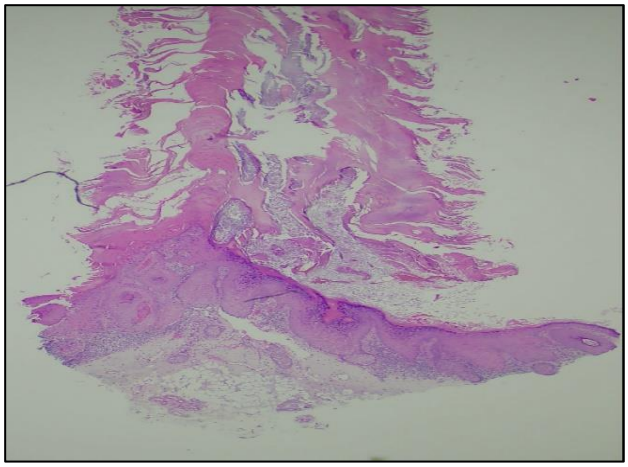

Figure 2: Histological slide.

DISCUSSION

Considerably, cutaneous horns are some of the uncommon keratinous outgrowths typical of animal horns with compacted keratin composition. The visuals have a similarity in most cases visually, rising from different conditions, including benign and malignant. They are effectively managed through base lesion identification, either harmless seborheic keratosis, including basal cell carcinoma (BCC) and SCC as threatening conditions.[6] Clinicians must perform thorough evaluation given the variability of the lesion where the cutaneous horn arises, is attained using histopathological analysis. Mostly, the lesions are asymptomatic, attributed to either premalignant or malignant conditions, and requires caution when diagnosing the condition among older patients or sun-exposed areas as with the current patient.[7]

Squamous cell carcinoma also developed where ultraviolet radiation (UV) hits the body like neck, ears, face and hands.[8] There is confirmed evidence on the association between SCC and exposure to sun, and the pathogenesis developing from UV-induced damage to DNA in keratinocytes. Prolonged exposure to sun triggers DNA mutations in the skin, and keratinocytes uncontrollably grow, which produces keratin. It is the basic mechanisms for developing SCC and keratinous growths like cutaneous horns as malignant lesions. The patient presented in this case is with a cutaneous horn formed in the underlying SCC on the pinna, which demands histopathological evaluation.

There is a reported 20-30% cutaneous developing from malignancies, making it critical to use histopathological assessment to inform the treatment plans and decisions.[9] When not properly examined, there is a risk of misjudging them as benign and underlying malignancy may be ignored. This histopathological evaluation will help identify the underlying lesion and its nature, equally determining the extent or level of the malignancy. SCC cases demand evaluating invasion levels and depth, including if carcinoma has developed beyond epidermis. Patient displays invasive SCC, and should be managed through aggressive treatment for containing cancer from affecting the lymph nodes nearby and distant sites.[10]

The underlying mechanism by which SCC form a cutaneous horn is one of the most contentious issues and has not been properly understood. However, different propositions and hypotheses have been fronted. For one, excess keratin could be produced from the dysplatic or malignant keratinocytes linked with the SCC. In this case, the growth will from with the same feature and appearance as the cutaneous horn. There is also the prolonged exposure to the sun hypothesis, increasing the risks for developing SCC and other skin lesions attributed to UV. This exposure means that keratin is produced in excess due to damaged keratinocytes. A hyperkeratotic lesion develops from overproduction, more so cutaneous horn, in pinna, that receives more sunlight.

The current patient's case, his cutaneous horn overlying SCC is a challenge for diagnosis. There is the possibility of cutaneous horn misleading, maybe benign, with no reported symptoms like bleeding, irritation and pain. Yet, horn is firmly consistent, in addition to induration at base, which challenges underlying malignant process. Lesion removed through surgical excision with histopathological examination confirming invasive SCC. Surgical excision and tissue analysis is necessary in managing cutaneous horns, as case shows, especially those developed in elderly patients or areas exposed to sun.[11]

Cutaneous horns developed from malignancies like SCC, is treated trough complete surgical excision. Clear histological margins are intended for reducing the possibility that there will be recurrence of the condition or metastasis developing. There is a different consideration when the lesions are functionally or cosmetically located in sensitive areas, especially the pinna. Therefore, surgeons need to manage and respond to the case by considering balancing the necessity for oncologic control with preserving cosmetic function and appearance. The patient's case outlines that a wide local excision has been preferred for the treatment. This is to ensure complete removal of all malignant tissue and reducing any risks of functional impairment or disfiguring the ear. The case also confirms the higher risks of SCC, with potential for metastasis development. Therefore, the case should be managed by a MDT to ensure a comprehensive care response.

SCC cases require the MDT, a valuable intervention. The Limerick university hospital's MDT team included pathologists, oncologists, MAX-FAX consultants and head and neck surgeons. They collectively provided crucial expert input on how the approach and develop the treatment plan. The MDT collectively decided on wide local excision upon the invasive SCC histopahtological diagnosis. The essence of collaboration is to address every patient care aspect coordinately and comprehensively. Wide local excision when SCC is diagnosed is to have histologically clear margins, with no cancerous cells remaining on the excised tissue edges. Clear margins must be realized to prevent local cancer recurrence and reducing metastasis risk.[12]

Cutaneous horns linked to SCC require postoperative follow-up as part of disease management measures. SCC history increases the likelihood of developing new or recurrent skin cancers where they are exposed to sunlight. Therefore, they need to plan for regular follow-up visits to prevent or monitor new lesions. The patient confirmed sun exposure and diagnosed with invasive SCC, meaning a need for closer surveillance after the excision.[13] Patient education is needed on measures to protect themselves against sun. They need to wear protective clothing and use broad-spectrum sunscreen for reducing UV-induced skin damage.

A cutaneous horn involves differential diagnosis on different benign and malignant conditions. Viral warts, seborrheic keratosis and actinic keratosis are possible causes of cutaneous horns. Team also needs to consider premalignant and malignant conditions like BCC and SCC among elderly patients/those developed within sun-exposed areas.[14,15] Therefore, clinicians should be extremely suspicious for malignancy during evaluation, since most lesions are attributed to an existing cancer.

The basic standard method used to diagnose a cutaneous and underlying causes is histopathology. The excised tissue is examined microscopically to determine whether premalignant, benign and malignant. Where SCC are diagnosed, histopathology shows the depth of invasion, levels of cancer cells differentiation and high-risk features like lymphovascular or perineurial invasion. The insights informs the treatment plan, decisions and determine the prognosis of the patient.[16]

As shown from the assessment, cutaneous are rare cases as lesions that should be comprehensively evaluated. Since cutaneous horns and malignant conditions are linked, especially SCC, where prompt surgical excision and thorough histopathological analysis are both necessary.[17] Where the lesion develops in areas exposed to sunlight like the pinna, it should be highly suspected for malignancy.[18,19] Early intervention is crucial and MDT management is required for better outcomes and limiting metastasis risks or recurrence.[20]

CONCLUSION

This case has confirmed SCC as a rare invasive case, presented as cutaneous horn on the pinna. The wide local excision was successful upon confirming SCC. Histological evaluation has been emphasized to manage cutaneous horns when found in areas exposed to the sun or reported in elderly patients. Optimal outcomes for such patients require multidisciplinary intervention and early surgery. Therefore, this assessment has shown the specifics of managing and respond to the cutaneous horn. Mostly, an MDT is recommended when sun-induced conditions develop. Despite the different representation of the conditions, the evaluation and analysis need to be comprehensive, considering the specific intended outcomes. In this regards, each patient condition should be assessed by considering the underlying causes.

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REFERENCES

1. Shahi S, Bhandari TR, Pantha T. Verrucous Carcinoma in a Giant Cutaneous Horn: A Case Report and Literature Review. Case Rep Otolaryngol. 2020;2020:1-3.

2. Rohith G, Dutta S. A Curious Case of Cutaneous Horn. Cureus. 2020;12(9):e10253.
3. Yu RCH, Pryce DW, Macfarlane AW, Stewart TW. A histopathological study of 643 cutaneous horns. Brit J Dermatol. 1991;124(5):449-52.
4. Copcu E, Sivrioglu N, Culhaci N. taneous horns: are these lesions as innocent as they seem to be? World J Surg Oncol. 2004;2(1):18.
5. Gul H, Asif F, Ghaffar I, Anwar MA, Tayyab MA, Kashif M. Epidemiology and pathological trends in oral squamous cell carcinoma in a local tertiary care hospital. Int J Community Med Publ Heal. 2017;4(12):4440.
6. Phulari R, Rathore R, Talegaon T, Shah A. Cutaneous horn: A mask to underlying malignancy. J Oral Maxillofacial Pathol. 2018;22(4):87.
7. Armstrong BK, Kricker A. The epidemiology of UV induced skin cancer. J Photochem Photobiol B: Biol. 2001;63(1-3):8-18.
8. Czarnecka AM, Stachyra K. Molecular Landscape of Skin Carcinomas. Springer eBooks. 2021;57-97.
9. Ad Hoc Task Force, Connolly SM, Baker DR, Coldiron BM, Fazio MJ, Storrs PA, et al. AAD/ACMS/ASDSA/ASMS 2012 appropriate use criteria for Mohs micrographic surgery: a report of the American Academy of Dermatology, American College of Mohs Surgery, American Society for Dermatologic Surgery Association, and the American Society for Mohs Surgery. J Am Academy Dermatol. 2012;67(4):531-50.
10. Wilmas KM, Nguyen QB, Patel J, Silapunt S, Migden MR. Treatment of advanced cutaneous squamous cell carcinoma: a Mohs surgery and dermatologic oncology perspective. Future Oncol. 2021;17(35):4971-82.
11. Sobanko JF, Sarwer DB, Zvargulis Z, Miller CJ. Importance of Physical Appearance in Patients with Skin Cancer. Dermatol Surg. 2015;41(2):183-8.
12. Cameron MC, Lee E, Hibler BP, Giordano CN, Barker CA, Mori S, et al. Basal cell carcinoma. J Am Acad Dermatol. 2019;80(2):321-39.
13. Mansouri B, Bicknell LM, Hill D, Walker GD, Fiala K, Housewright C. Mohs Micrographic Surgery for the Management of Cutaneous Malignancies. Facial Plastic Surg Clin N Am. 2017;25(3):291-301.
14. Everts HB, Akuailou EN. Retinoids in Cutaneous Squamous Cell Carcinoma. Nutrients. 2021;13(1):153.
15. Corley EA, Schmitt AM, Andrew, Chisholm JC. The role of systemic therapy in paediatric cutaneous melanoma: a review. Pediatr Med. 2023;6:37-7.
16. Fania L, Didona D, Di Pietro FR, Verkhovskaia S, Morese R, Paolino G, et al. Cutaneous Squamous Cell Carcinoma: From Pathophysiology to Novel Therapeutic Approaches. Biomedicines. 2021;9(2):171.
17. Meena J, Hasija Y. Application of explainable artificial intelligence in the identification of Squamous Cell Carcinoma biomarkers. Computers Biol Med. 2022;146:105505.
18. Hawrot A, Alam M, Ratner D. Squamous cell carcinoma. Curr Problems Dermatol. 2003;15(3):91-133.
19. Veta M, Pluim JPW, van Diest PJ, Viergever MA. Breast Cancer Histopathology Image Analysis: A Review. IEEE Transactions on Biomedical Engineering. 2014;61(5):1400-11.
20. Brancaccio G, Fargnoli MC, Briatico G, Pellegrini C, Rocco T, Moscarella E. Risk Factors and Diagnosis of Advanced Cutaneous Squamous Cell Carcinoma. Dermatol Pract Conceptual. 2021;11(S2):e2021166S.

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