



Cutaneous Horns on the Nose and Ear: Association with Malignant and Premalignant Conditions – Two Case Reports

Burun ve Kulakta Kutanöz Horn, Malign ve Premalign Süreçlerle İlişkisi: İki Olgu Sunumu

Öznur Gündüz¹

¹ Akdağmadeni State Hospital, Department of Otorhinolaryngology, Yozgat, Türkiye

ABSTRACT

Cutaneous horns are hyperkeratotic lesions characterized by a horn-like appearance, varying in size from a few millimeters to several centimeters. These lesions are commonly located on areas of the skin with prolonged sun exposure, such as the face and ears. Cutaneous horns can develop in association with underlying benign, premalignant, or malignant conditions, or as a direct result of such alterations. This report presents two cases of patients who underwent surgical treatment for cutaneous horns located on the nasal and auricular regions, with actinic keratosis and squamous cell carcinoma identified as the underlying pathologies.

Keywords: Actinic keratosis, head and neck neoplasms, horns, skin neoplasms, squamous cell carcinoma

ÖZET

Kutanöz horn, birkaç milimetre ile birkaç santimetre arasında değişen uzunlukta, boynuzumsu görünümde hiperkeratotik lezyonlardır. Kutanöz horn, genel olarak yüz cildi, kulaklar ve güneşe maruziyetin fazla olduğu diğer alanlarda görülür. Kutanöz horn zeminde mevcut olan benign, premalign veya malign değişikliklerle birlikte veya bu değişiklikler sonucu oluşmaktadır. Bu yazıda burun ve kulak cildinde kutanöz horn nedeniyle ameliyat edilen ve kutanöz horn zemininde aktinik keratoz ve skuamöz hücreli kanser tespit edilen iki hasta sunulmaktadır.

Anahtar Kelimeler: Aktinik keratoz, baş ve boyun neoplazileri, boynuzlar, deri tümörleri, skuamöz hücreli karsinom

INTRODUCTION

Cutaneous horns are conical, hyperkeratotic structures that extend from the skin surface and resemble animal horns, with their length exceeding the diameter of their base. These lesions are also referred to as cornu cutaneum (1). Although they have been previously observed, cutaneous horns were first formally described in the 17th century by Thomas Bartholin (2). These lesions can occur anywhere on the body, with approximately 30% found on the face and scalp. While commonly observed in elderly patients, the underlying pathology of cutaneous horns may be benign, premalignant, or malignant (3). This study presents two cases of cutaneous horns located on the nasal and auricular regions, where actinic keratosis and squamous cell carcinoma were identified as the underlying conditions.

CASE 1

An 83-year-old female patient presented to our outpatient clinic with a horn-like lesion on her nose, which she re-

ported had been present for two years. She described the lesion as occasionally crusting, and despite attempts at removal, it continued to grow. Her medical history included prolonged sun exposure, diabetes, and hypertension. She denied any other symptoms, apart from social isolation due to the lesion's appearance.

Physical examination revealed a cutaneous horn lesion measuring approximately 1.5 cm in length and 1x1 cm at the base, located on the nasal tip. The lesion was surrounded by erythematous, indurated tissue with yellowish keratotic features. No pathological lymphadenopathy was detected on head and neck examination. The lesion was excised with an 8 mm margin of normal skin, and the defect was subsequently closed using a dorsal nasal flap (Figure 1).

Histopathological examination confirmed the diagnosis of well-differentiated squamous cell carcinoma of the kera-

Corresponding Author: Öznur Gündüz, Akdağmadeni State Hospital, Department of Otorhinolaryngology, Yozgat, Türkiye **Email:** oznurgunduz@gmail.com
Cite this article as: Öznur G. Cutaneous Horns on the Nose and Ear: Association with Malignant and Premalignant Conditions – Two Case Reports. JAMER 2025;10(2)49-52.

Received: 24.11.2024
Accepted: 09.01.2025
Online Published: 31.08.2025

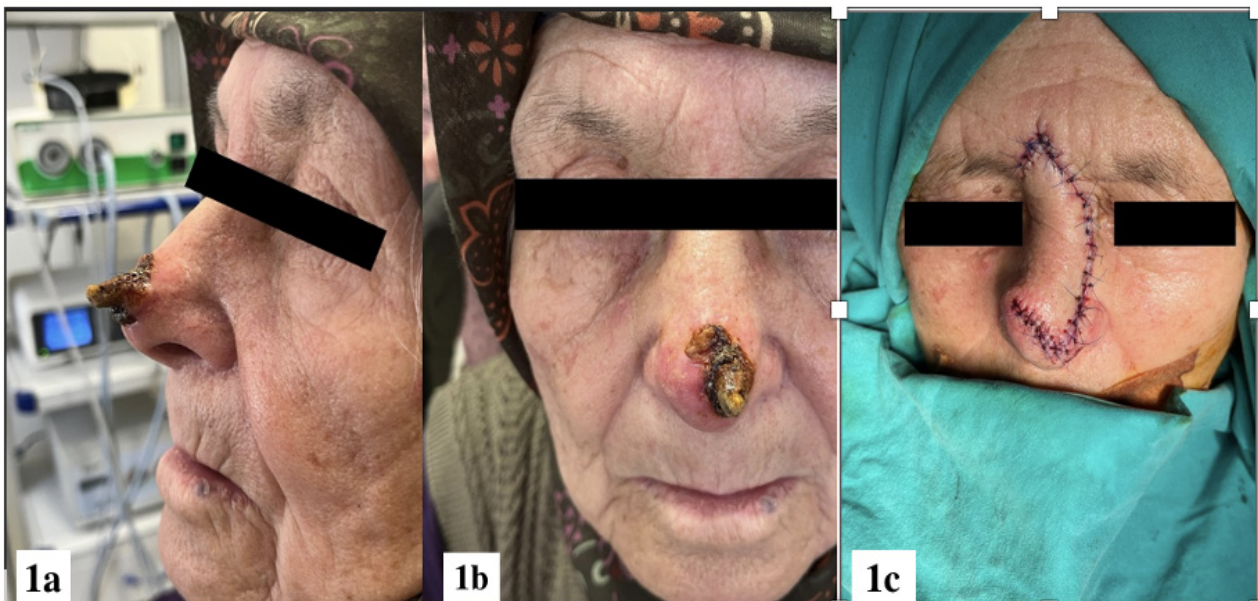


Figure 1. a. Lateral preoperative view of the cutaneous horn on the nose **b.** Preoperative view of the cutaneous horn on the nose **c.** Reconstructin of the nasal defect using a dorsal nasal flap.

toacanthoma-like subtype. The maximum tumor diameter was 0.9 mm, with no evidence of tumor involvement at the surgical margins. The patient's neck ultrasound showed no pathological lymphadenopathy. The pathology reported that all surgical margins were negative with a margin of 5 mm, and the tumor size was small; therefore, no additi-

onal resection was planned. At 6 months post-operatively, no recurrence was noted, and the patient remains under surveillance.

Histopathological examination confirmed the diagnosis of well-differentiated squamous cell carcinoma of the kera-

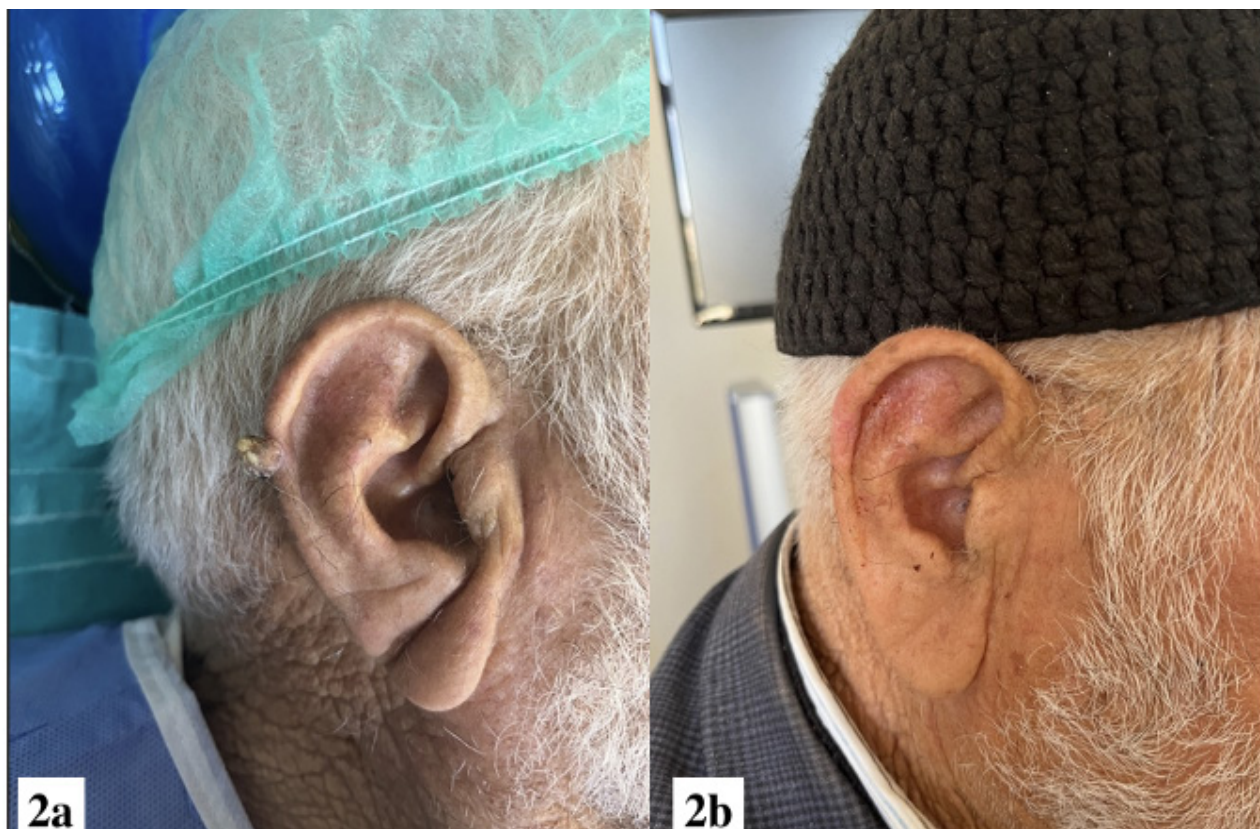


Figure 2. a. Preoperative view of the cutaneous horn on the helix of the right auricle **b.** Postoperative view of the right auricle.

toacanthoma-like subtype. The maximum tumor diameter was 0.9 mm, with no evidence of tumor involvement at the surgical margins. The patient's neck ultrasound showed no pathological lymphadenopathy. The pathology reported that all surgical margins were negative with a margin of 5 mm, and the tumor size was small; therefore, no additional resection was planned. At 6 months post-operatively, no recurrence was noted, and the patient remains under surveillance.

CASE 2

An 86-year-old male patient presented with a firm, horn-like lesion on his right ear, which had been present for three years. He reported that the lesion had recurred and continued to grow despite multiple attempts at removal. His medical history included prolonged sun exposure, benign prostatic hyperplasia, hyperlipidemia, and diabetes.

On physical examination, a lesion consistent with a cutaneous horn, measuring approximately 8x8 mm at the base and 1 cm in length, was observed originating from the helix of the right auricle. No pathological lymphadenopathy was detected during the head and neck examination. The lesion was excised with a 6 mm margin of normal skin, and the resulting defect was closed using a partial Antia-Buch chondrocutaneous advancement flap (Figure 2). The Antia-Buch chondrocutaneous advancement flap, used for small to medium sized helical defects, is created by advancing a chondrocutaneous flap over the defect after making an incision along the helical sulcus in the anterior skin and cartilage. Antia-Buch flap reconstruction can be performed in a single stage for helical defects smaller than 2.8 cm (4).

Histopathological examination revealed areas of squamous proliferation with occasional nuclear enlargement and increased cellular alignment, consistent with squamo-proliferative lesion of uncertain malignant potential. The differential diagnoses included actinic keratosis and Bowen's disease. No tumor involvement was observed at the surgical margins.

DISCUSSION

Cutaneous horns are chronic, keratinized protrusions of the skin, varying in size from a few millimeters to several centimeters. They typically present as dense, compact keratinized lesions and are most commonly observed in areas of the body exposed to sunlight, particularly the head and neck region. Individuals over the age of 50 with fair skin are most susceptible (5). While no significant gender predilection has been noted, malignancy is more commonly found in male patients (6). Painful and erythematous lesions, as well as those with a broader base, are more frequently associated with premalignant or malignant conditions (1,7).

The exact pathogenesis of cutaneous horns remains unclear. Benign lesions that may give rise to cutaneous horns include seborrheic keratosis, keratoacanthoma, trichilemmoma, and epithelial hyperplasia, while premalignant lesions such as actinic keratosis, arsenic keratosis, and Bowen's disease are also implicated. Malignant lesions associated with cutaneous horns include squamous cell carcinoma (SCC), basal cell carcinoma (BCC), metastatic renal carcinoma, granular cell tumors, sebaceous carcinoma, and Kaposi's sarcoma. Cutaneous horns frequently occur in conjunction with actinic keratosis (3,7). Although most cutaneous horns are benign, studies show that 39% of these lesions are associated with malignancy or premalignant conditions. Patients with a history of extensive sun exposure are more likely to develop actinic keratosis and squamous cell carcinoma (6).

Actinic keratosis is a premalignant lesion that typically presents as a flat, scaly patch which progress to a larger, wart-like growth. These lesions range from 2-6 mm in size and vary in color from skin-toned to pink, red, or darker shades, most commonly appearing in sun-exposed areas. Actinic keratosis has the potential to progress to squamous cell carcinoma (8). In our patients, who had a history of prolonged sun exposure due to farming, the combination of cutaneous horn, well-differentiated squamous cell carcinoma, and actinic keratosis was observed.

Non-melanoma skin cancer, which includes both BCC and SCC, ranks among the five most common malignancies globally (9). Cutaneous squamous cell carcinoma, with a prevalence of approximately 25%, is the second most common skin cancer following basal cell carcinoma, which accounts for 75% of cases (10-12). Although non-melanoma skin cancers generally have a low mortality rate, they are often locally aggressive and can significantly affect quality of life. Cutaneous squamous cell carcinoma, a keratinocyte-derived malignancy, predominantly affects the elderly, with ultraviolet radiation identified as the major etiological factor (10).

The treatment protocol for cutaneous horns involves complete excisional biopsy. Following excision, a pathological evaluation is essential to determine the extent of excision and assess the surgical margins. Benign lesions can be excised for cosmetic reasons and monitored periodically. For premalignant or malignant cases, wide local excision is the preferred treatment. The surgical margins should be adjusted based on the presence of underlying premalignant or malignant disease (13). While there is variation in the literature regarding appropriate surgical margins, guidelines suggest 4 mm for low-risk BCC, 4-6 mm for low-risk SCC, and 4 mm for SCC tumors smaller than 2 cm, with a margin greater than 6 mm recommended for larger tumors (14-17). Ablative lasers such as carbon dioxide lasers may be considered

for aesthetic reasons (3,5), while cryotherapy is not recommended. The preferred approach is to assess the base of the cutaneous horn for malignant potential and perform total excision (3). In our patients, excision was carried out with a surgical margin of 6-8 mm, and tumor-free margins were confirmed postoperatively.

Patients with cutaneous horns resulting from underlying SCC should also undergo evaluation for metastasis. Both basal cell carcinoma and SCC patients require follow-up for three years post-diagnosis (18). A three-year follow-up plan has been established for our patients, and they remain under our surveillance.

Conclusion

In patients with cutaneous horns, it is known that these lesions can be associated with benign, premalignant, and malignant processes. When a cutaneous horn is identified, it is essential to include the base of the lesion in the specimen, perform total excision, and conduct histopathological evaluation post-surgery. Surgical margins should be determined based on the underlying malignant potential, and excision should be planned accordingly.

Informed Consent: Written informed consent was obtained from the subject for the publication of the study.

Conflict of Interest: The authors declare no conflict of interest in this study.

Financial Disclosure: No financial support was received from any institution or organization for this study.

REFERENCES

- Pyne J, Sapkota D, Wong JC. Cutaneous horns: clues to invasive squamous cell carcinoma being present in the horn base. *Dermatol Pract Concept*. 2013;3(2):3-7.
- Bondeson J, Everard Home, John Hunter, and cutaneous horns: a historical review. *Am J Dermatopathol*. 2001;23(4):362-369.
- Park H, Kim W, Kim H, Yeo H. Cutaneous horn in premalignant and malignant conditions. *Arch Craniofac Surg*. 2016;17(1):25-27.
- Stella C, Adam M F, Edward L. Helical rim reconstruction: Antia-buch flap. *Eplasty*. 2015;15:ic55.
- Lowe FC, McCullough AR. Cutaneous horns of the penis: an approach to management. Case report and review of the literature. *J Am Acad Dermatol*. 1985;13(2 Pt 2):369-373.
- Copcu E, Sivrioglu N, Culhaci N. Cutaneous horns: are these lesions as innocent as they seem to be? *World J Surg Oncol*. 2004;2:18.
- Kneitz H, Motschenbacher S, Wobser M, Goebeler M. Photoletter to the editor: Giant cutaneous horn associated with squamous cell carcinoma. *J Dermatol Case Rep*. 2015;9(1):27-28.
- Quaedvlieg PJ, Tirsi E, Thissen MR, Krekels GA. Actinic keratosis: how to differentiate the good from the bad ones?. *Eur J Dermatol*. 2006;16(4):335-339.
- Trager MH, Gordon ER, Breneman A, Weng C, Samie FH. Artificial intelligence for nonmelanoma skin cancer. *Clin Dermatol*. 2024;42(5):466-476.
- Güç ZG, Güç H. Cutaneous Squamous Cell Carcinoma: A type of cancer that discriminates against young adults. *Acta Oncol Tur*. 2023;56(1):74-80.
- Bartos V. Development of multiple-lesion basal cell carcinoma of the skin: A comprehensive review. *Sisli Etfal Hastan Tip Bul*. 2019;53(4):323-328.
- Gruber P, Zito PM. Skin cancer. In: *StatPearls*. Treasure Island (FL): StatPearls Publishing; 2023.
- Nahhas AF, Scarbrough CA, Trotter S. A review of the global guidelines on surgical margins for nonmelanoma skin cancers. *J Clin Aesthet Dermatol*. 2017;10(4):37-46.
- Uslu A. Retrospective analysis of the treatment and follow-up of 251 patients with non-melanoma skin cancer in the mediterranean region. *Acta Oncol Tur*. 2019;52(2):221-231.
- Toplu G, Altınel D, Serin M. Evaluation of skin cancers in a 7-year plastic surgery archive (2014-2020). *Istanbul Med J*. 2022;23(3):164-169.
- Rampinelli V, Pinacoli A, Piazza C. Head and neck nonmelanoma skin cancers: surgical management and debated issues. *Curr Opin Otolaryngol Head Neck Surg*. 2024;32(2):62-70.
- Tapan M, Özkan Ö. Immediate reconstruction of nasal and alar defects after malignant skin tumor excision without mohs surgery. *Eur Res J*. 2023;9(5):1027-1033.
- Thiers BH, Strat N, Snyder AN, Zito PM. Cutaneous horn. In: *StatPearls*. Treasure Island (FL): StatPearls Publishing; 2024.