

CASE REPORT

Verrucous carcinoma on melanoma graft after melanoma surgery: Case Report

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SUMMARY

Cutaneous verrucous carcinoma is a rare and well-differentiated variant of squamous cell carcinoma, which is characterized by slow growth and low metastatic potential, but which can be locally aggressive and whose recurrence is not uncommon. Tumors usually develop in older adults, usually patients 50 to 70 years of age and predominantly in Caucasian men. It can arise in chronic inflammatory conditions. It manifests as an exophytic tumor with a warty surface and the plantar shape stands out for its slow growth and low metastatic potential; however, it is locally aggressive. We present the case of a 69-year-old female patient, with a history of melanoma in the left heel reconstructed with a graft 10 years ago, who presented with a yellowish, ill-defined, 2-month-old, asymptomatic warty plaque, for which a skin biopsy was performed that reported verrucous carcinoma.

INTRODUCTION

Cutaneous verrucous carcinoma is a rare and well-differentiated variant of squamous cell carcinoma, characterized by slow growth and low metastatic potential.¹ However, it can be locally aggressive and recurrence is not uncommon.² Tumors usually develop in older adults, usually patients 50 to 70 years of age, predominantly in Caucasian men.³ This carcinoma can be associated with chronic inflammatory conditions, such as lichen sclerosus, burn scars, chronic ulcers, or low-risk leishmaniasis and HPV. Different anatomical regions such as palmo-plantar, oral mucosa and anogenital have been affected, but outside of these, verrucous carcinoma appears infrequently. It can easily be confused with benign or more malignant conditions, such as giant condyloma acuminata, keratoacanthoma,

pseudoepithelioma-like hyperplasia, or squamous cell carcinoma, resulting in inadequate treatment.⁴

CLINICAL CASE

A 69-year-old female patient with a history of melanoma in the left heel, who was treated with complete excision plus reconstruction with a full-thickness graft 10 years ago, with episodes of suture dehiscence. He reports that for 2 months, a poorly defined yellowish plaque of approximately 2 cm, with a papillomatous appearance, macerated with exudation of occasional serohaematic material, which settles on a previous graft scar (Figure 1 A and B), does not present accompanying symptoms and has not undergone any



Figure 1. A and B: poorly defined yellowish plaque of 2 cm, papillomatous appearance, macerated, on graft on the left heel.

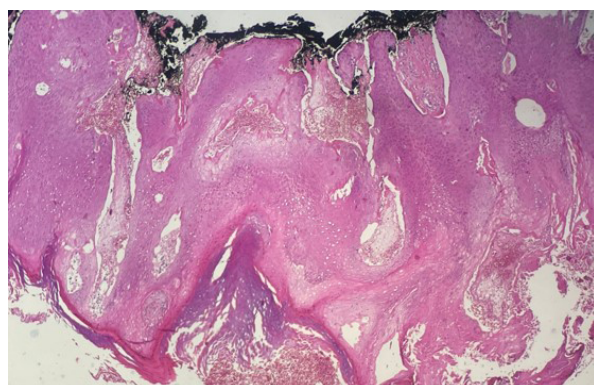


Figure 2: Marked papillomatosis, acanthotic epidermis with irregular hyperplasia and pseudoepitheliomatous, hyperkeratotic and parakeratosis; slight atypia of keratinocytes is observed at the base.

treatment. With the suspicion that it may be a recurrence due to a history of melanoma, it was decided to perform an incisional biopsy of the lesion, which reported exophytic epidermal lesion, characterized by marked papillomatosis, acanthotic epidermis with irregular hyperplasia and pseudoepitheliomatous, hyperkeratosis and parakeratosis, at the base there is a slight atypia of keratinocytes, compatible with verrucous carcinoma (Figure 2). Due to the size of the lesion, the patient was referred to the oncological surgery service for treatment.

DISCUSSION

Verrucous carcinoma is an unusual, well-differentiated, low-grade variant of squamous cell carcinoma that tends to appear in middle-aged adults or older than 50–70 years.³ It is more common in Caucasian men and usually evolves over a considerable period of time.⁴ It is classified into four types based on the location of onset, which include 1) oral-gastrointestinal (florid oral papillomatosis and Ackerman's tumor), 2) anal-genital, giant condyloma acuminatum of the genitals, also known as Buschke-Löwenstein tumor 3) foot, epithelioma cuniculatum on the plantar surface of the foot, and 4) verrucous carcinoma of other skin sites.⁵ It is controversial whether the Buschke-Löwenstein tumor represents a variant of verrucous carcinoma or whether it is actually a giant condyloma acuminata.⁶

Cutaneous verrucous carcinoma most commonly occurs on the sole of the foot, but lesions have also been documented at a wide variety of sites, including the wrists, fingers, nail bed, ear, nose, eyelid, scalp, buttocks, shoulder, armpit, abdominal wall, and lip.⁷ Tumors are rarely multicentric; They occur in the form of large, exophytic tumors with a papillomatous or warty surface, hyperkeratotic, often associated with the development of keratin-filled breasts, leading to the designation of Epithelioma cuniculatum, for its resemblance to a rabbit den. Anogenital lesions are clinically similar, but the exophytic appearance is usually more pronounced and often appears to have arisen from a pre-existing condyloma acuminata.⁸

They are frequently associated with HPV infection, and it can be difficult to distinguish between verrucous carcinoma, giant wart vulgaris, or condyloma acuminata. Specifically, HPV 6 and 11 have been characteristically associated with Buschke–Lowenstein carcinoma, while other HPVs (HPV 16, 18 and 33) have also been demonstrated in verrucous carcinomas of other locations.^{9,10} Gradual penetration of verrucous carcinoma into the underlying tissues can destroy subcutaneous tissue, fascia, and bone. These tumors can arise within amputation scars and stumps, as well as associated with osteomyelitis fistulas and chronic venous insufficiency.¹¹

Histologically, verrucous carcinomas show similar microscopic findings regardless of their location, characterized by the association of an exophytic and an endophytic component in the same lesion. The first consists of acanthosis and papillomatosis that generally shows massive hyperkeratosis and frequently parakeratosis. The endophytic component is made up of a well-differentiated squamous epithelium, forming projections or “bulbous”, blunt processes, which grow by “pushing” the dermis, extending to the reticular dermis and even the subcutaneous tissue, without showing an infiltrative growth pattern.⁸ Other histological features such as the formation of keratin cysts and the presence of a variable inflammatory infiltrate may be observed. A clinical and histological differential diagnosis can be made with other variants of squamous cell carcinomas, common warts, keratoacanthomas, and reactive epidermal hyperplasias. Less commonly, they can be confused with certain benign adnexal tumors, giant seborrheic keratosis, warty melanomas, xanthomas verruciformes and even with iododermas and bromodermas.⁹ Complete removal of the tumor is required to achieve the correct filiation of the tumor, since biopsies make it difficult to visualize the “exo-endophytic” growth pattern characteristic of verrucous carcinoma.¹¹

Verrucous carcinoma is associated with considerable morbidity. It has the potential for metastasis, but with a greater predilection for localized destruction.^{1,3}

The locally aggressive and metastatic nature has led to surgical resection as the recommended treatment. The tumor could eventually spread to deep tissues, requiring amputation of the foot.¹² Photodynamic therapy and CO₂ laser have been reported to be used preoperatively to reduce tumor size. Other treatment modalities include chemotherapy, immunotherapy, cryosurgery, and intradermal injection of interferon- α .³ The contribution of radiotherapy has been controversial, due to the risk of anaplastic transformation.¹³ Studies have shown that tumors with a diameter greater than 2 cm have a threefold increase in their metastatic rate.¹⁴ When the depth of tumor invasion is greater than 6 mm, the rate of metastasis is as high as 16%.¹⁵

CONCLUSION

Cutaneous verrucous carcinoma is a rare, slow-growing, low-metastatic potential subtype of low-grade squamous cell carcinoma. The identification of clinicopathological features is essential to make an early diagnosis, since there are confusing appearances in the initial stage that can lead to their delay. Regardless of the therapeutic methods available, surgical resection with safety margins remains the recommended treatment, because it can be locally aggressive and cause recurrences. That is why this case is important, since it teaches us that the appearance of a new lesion in a place where some type of cancer previously existed does not necessarily mean that it is a recurrence, but that it could be a new pathology, which is why an appropriate diagnosis and treatment must be made.

INFORMED CONSENT

The patient included in this study has signed the informed consent, approving the use of her images and clinical data exclusively for research and scientific publication purposes. It is guaranteed that no personal data has been provided and no photographs have been used to allow identification.

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REFERENCES

- Noel JC, Heenen M, Peny MO, Fayt I, Peny J, De Dobbelaar G, et al. Proliferating cell nuclear antigen distribution in verrucous carcinoma of the skin. *Br J Dermatol*. 1995 133(6):868–73. doi: 10.1111/j.1365-2133.1995.tb06918.x
- Belocopitow, M, Ugarte, C, Marcucci, C, Ortellado, ML y Merola, G. Carcinoma verrugoso plantar. *Dermatol Arg*. 2022 28 (4): 176–79. doi: 10.47196/da.v28i4.2245.
- Koch B, Trask D, Hoffman H, Karnell L, Robinson R, Zhen W, Menck H; Commission on Cancer, American College of Surgeons; American Cancer Society. National survey of head and neck verrucous carcinoma: patterns of presentation, care, and outcome. *Cancer*. 2001 92(1):110–20. doi: 10.1002/1097-0142(20010701)92:1<110::aid-cn-cr1298>3.0.co;2-k.
- Ye Q, Hu L, Jia M, Deng LJ, Fang S. Cutaneous verrucous carcinoma: A clinicopathological study of 21 cases with long-term clinical follow-up. *Front Oncol*. 2022 Oct 13;12:953932. doi: 10.3389/fonc.2022.953932..
- Assaf C, Steinhoff M, Petrov I, Geilen CC, de Villiers EM, Schultz-Ehrenburg U, et al. Verrucous carcinoma of the axilla: case report and review. *J Cutan Pathol*. 2004 31(2):199–204. doi: 10.1111/j.0303-6987.2004.00163.x
- Orive-Ballesteros JM, Sánchez-López M, Palafox-Chávez M, Luna-Morales O. Giant condyloma acuminatum (Buschke-Löwenstein tumor) of the anorectal region: radiotherapy, a treatment option. Case report and literature review. *Gac. Mex. oncol*. 2019 18(1):64–68. doi:10.24875/j.gamo.19000163.
- Kurisu, Y., Tsuji, M., Yasuda, E., Fujiwara, M., Moriwaki, S. Immunohistochemical findings and differential diagnosis of papillary-type cutaneous verrucous carcinoma of the neck: A case report. *Oncol Lett*. 2015 10 (6): 3823–3825. doi:10.3892/ol.2015.3825
- Calonje, J. Eduardo, et al. *McKee's Pathology of the Skin*. 5a ed., Elsevier Health Sciences, 2019.
- González-Pérez, R., Trébol, I., Arregui, A., García-Río, I., Carnero, L., Arrue, I., et al. Carcinoma verrugoso facial. Descripción de dos casos. *Actas Dermosifiliogr*. 2009 100(2), 160–162. doi:10.1016/s0001-7310(09)70241-8
- Floristán, M, Feltes, R, Sáenz, J y Herranz, P. Carcinoma verrugoso del pie asociado a virus papiloma humano tipo 18. *Actas Dermosifiliogr*. 2009 100 (5): 433–35. doi: 10.1016/s0001-7310(09)71264-5.
- Costache M, Desa LT, Mittrache LE, Pătrașcu OM, et ál. Cutaneous verrucous carcinoma. Report of three cases with review of literature. *Rom J Morphol Embryol*. 2014 55:383–388
- González Vilas, D., García Gavín, J., Rodríguez Pazos, L., & Toribio, J. Carcinoma verrucoso. *Piel*. 2010 25(2), 81–90. doi:10.1016/j.piel.2009.10.004
- Nikkels AF, Thirion L, Quatresooz P, Piérard GE. Photodynamic therapy for cutaneous verrucous carcinoma. *J Am Acad Dermatol*. 2007 57(3):516–9. doi: 10.1016/j.jaad.2007.02.025
- Chan MP. Verruciform and condyloma-like squamous proliferations in the anogenital region. *Arch Pathol Lab Med*. 2019 143(7):821–31. doi: 10.5858/arpa.2018-0039-RA
- Que S, Zwald F, Schmuls C. Cutaneous squamous cell carcinoma: Incidence, risk factors, diagnosis, and staging. *J Am Acad Dermatol*. 2018 78(2):237–47. doi: 10.1016/j.jaad.2017.08.059