

Verrucous Carcinoma on the Lower Extremities

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To the Editor:

A 38-year-old black man presented with a slowly enlarging growth on the left thigh of 7 years' duration. The lesion would occasionally scrape off but always recurred. He reported that the tumor developed in the area of a prior nevus. He reported no direct trauma to the area, chronic inflammation, or similar lesions elsewhere. His medical history included gastroesophageal reflux disease and inactive sarcoidosis. Physical examination revealed a 3×3×1-cm exophytic, hyperkeratotic, erythematous nodule with surrounding stellate and branching hyperpigmentation on the anterior aspect of the thigh (Figure 1). Pathologic examination demonstrated hyperkeratosis with an endophytic proliferation of mildly atypical keratinocytes with broad blunted rete ridges (Figure 2). Complete excision of the lesion was performed.

A 33-year-old black man presented with a rapidly growing lesion on the right fifth toe of 3 months' duration. The patient originally believed the initial small papule was a corn, and after attempts to shave it down with a razor blade, the lesion grew rapidly into a large painful tumor. He reported no prior trauma to the area or history of a similar lesion. Physical examination revealed a 2×2×0.5-cm hyperkeratotic, papillated, hard nodule with a heaped-up border and no ulceration or drainage (Figure 3). A shave biopsy of the lesion was obtained. Microscopic examination revealed hyperkeratosis, parakeratosis, and papillomatosis with deep extension of mildly atypical keratinocytes into the dermis. Small toe amputation was performed by an orthopedic surgeon.

Verrucous carcinoma, first described by Ackerman¹ in 1948, is an uncommon, low-grade, well-differentiated variant of squamous cell carcinoma. It presents as a slow-growing, bulky, exophytic tumor with a broad base. The tumor can ulcerate or present with surface sinus tracts that drain foul-smelling material. Typically, the tumor occurs in the fifth to sixth decades of life, with men outnumbering women by a ratio of 5.3 to 1.² The prevalence of verrucous carcinoma in black individuals is unknown. A review of nonmelanoma skin cancers in skin of color identifies squamous cell carcinoma as the most common cutaneous carcinoma but does not report on the rare verrucous variant.³

Verrucous carcinoma is found in a variety of mucosal and skin surfaces. Verrucous carcinoma of the oral cavity, found most commonly on the buccal mucosa, is known as florid oral papillomatosis or Ackerman carcinoma. Cutaneous verrucous carcinoma is referred to as carcinoma cuniculatum or epithelioma cuniculatum and is predominantly located on the plantar surface of the foot. It is less commonly reported on the palm, scalp, face, extremities, and back. Verrucous



Figure 1. An exophytic, hyperkeratotic, erythematous nodule with surrounding hyperpigmentation on the anterior aspect of the left thigh.

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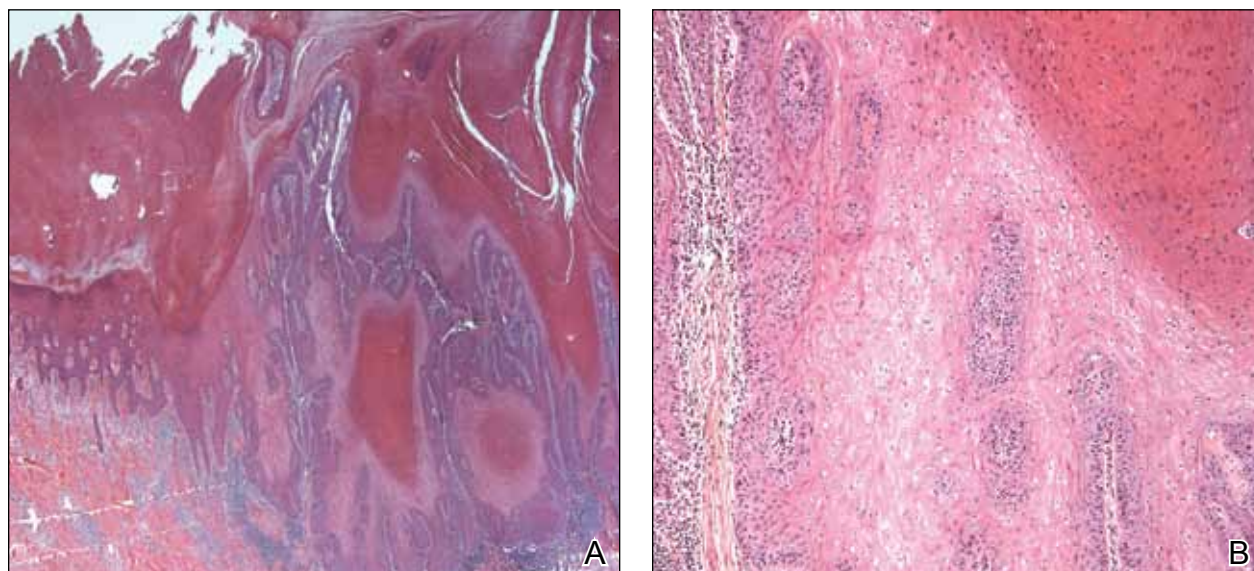


Figure 2. Overall view of verrucous carcinoma on histology (A)(H&E, original magnification $\times 20$). A papillated endophytic proliferation of atypical keratinocytes of verrucous carcinoma was noted (B)(H&E, original magnification $\times 100$).



Figure 3. A hyperkeratotic, papillated, hard nodule with a rough surface on the right fifth toe.

carcinoma found in the anogenital area is referred to as the Buschke-Löwenstein tumor.⁴

Histologically, the lesion shows minimal cytologic atypia. Topped by an undulating keratinized mass, the deep margin of the tumor advances as a broad bulbous projection, compressing the underlying connective tissue in a bulldozing manner. Typically there also are keratin-filled sinuses and intraepidermal microabscesses.¹

Human papillomavirus types 6, 11, 16, and 18 may be involved in the induction of the tumor. Human papillomavirus types 6 and 11 are frequently associated with the Buschke-Löwenstein tumor,^{2,4} while carcinoma cuniculatum is most commonly associated with human papillomavirus 16.⁵⁻⁷ In several cases of verrucous carcinoma, the tumor was reported to arise from preexisting lesions with chronic inflammation, such as a chronic ulcer, inflamed cyst, or burn scar.² Ackerman carcinoma has been associated with the use of snuff, chewing tobacco, and betel nuts.

Morbidity and mortality from verrucous carcinoma arises from local invasion and infiltration into adjacent bone. The tumor rarely metastasizes, with regional lymph nodes being the only reported site of metastasis.⁸ The treatment of cutaneous verrucous carcinoma is complete surgical excision. Mohs micrographic surgery is preferred because it minimizes recurrence risk.⁴ Radiation therapy is contraindicated because it has been reported to cause the tumor to become more aggressive.^{9,10} Although local recurrence may occur, the prognosis is usually favorable.

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