Diabetes vignette

The remarkable case of verrucous carcinoma: a rare find

Verrucous carcinoma may also be known as epithelioma cuniculatum. This name was first used by Aird et al. in 1954 to describe a well defined tumour on the surface of the skin, which was broken up by interconnecting series of branching tunnels and clefts, ‘having the (cuniculate) structure of the burrows in a rabbit warren’. There are multiple sinuses which open onto the surface of the skin and which are filled with foul-smelling, greasy sebaceous material.

Verrucous carcinoma is an uncommon, well-differentiated, low-grade, squamous cell carcinoma which is a locally invasive, malignant tumour and which may penetrate to fascia and bone. It has a rare potential for distal metastasis but may recur. It is most often found on mucosa but may also be found on chronic ulcers, skin grafts and old scars.

Case report
A 62-year-old man with long-standing type 1 diabetes, with poor glycaemic control, presented with an apparent neuropathic plantar ulcer (Figure 1). The lesion was treated as a neuropathic ulcer for many months but, in spite of regular debridement, it continued to grow and change in appearance. When a deep biopsy was taken by the dermatologist, it revealed that the lesion was verrucous carcinoma. On gross examination, the plantar lesion measured approximately 8 x 4 cm and protruded through the interdigital clefts of the hallux, 2nd and 3rd toes. Over time, it became more warty looking, with soft white fronds on the base of the ulcer and copious amounts of foul-smelling secretion exuding from small sinuses (Figure 2). The amount of exudate and the malodour could have been confused with infection but there were no other signs of overt infection. Once the biopsy confirmed verrucous carcinoma, the patient had a wide, deep excision of all the infected tissue, including amputation of the 2nd and 3rd toes. He was given a skin graft which was partially successful but the wound did eventually heal slowly and completely (Figure 3).

Discussion
Verrucous carcinoma more commonly affects males and is found most often in patients in their 50s. When feet are affected, the tumour occurs predominantly on the anterior weight-bearing part of the sole of the foot and typically the history is one of a recalcitrant plantar wart or epidermal hyperplasia with recurrence after local excision.

There are multiple aetiological factors which may be implicated in the development of verrucous carcinoma including a history of trauma, chronic ulcer (especially in diabetic patients) scarring, or the long-term application of some pharmaceutical agents. Diabetic patients with neuropathy and peripheral vascular disease have been reported to have altered wound healing and inflammatory responses to necrotic tissue and disturbed angiogenesis, and therefore will be more vulnerable to developing such a tumour. Some studies have shown that there may be a viral origin to verrucous carcinoma because of a close relationship with plantar warts.

Verrucous carcinoma has been described under different eponyms and so it is important to make the correct diagnosis in order to afford the correct treatment. Identifying the problem early and ensuring wide local excision with a good wound margin should give a good result. Electro-desiccation, cryotherapy and laser therapy often fail.

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References
References are available online at www.practicaldiabetes.com.
References