A Rapidly Growing Squamous Cell Carcinoma or Keratoacanthoma or Both?

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Sir,
Squamous cell carcinomas (SCC) of the skin are frequent malignant skin tumours, with an incidence of 30 per 100,000 population per year in Western Europe. In sunnier climates they are even more frequent. SCC usually develop from actinic keratoses. In addition to sunlight, other predisposing factors include ionizing radiation, chronic inflammation with scarring, viral infections and immunosuppression. Organ transplantation patients have a markedly increased risk, perhaps 200-fold, of developing SCC, because of their immunosuppressive therapy (1). The same is true for patients with immunodeficiency due to other factors, for example, those with HIV infection (1, 2).

CASE REPORT

A 50-year-old man presented with a large tumour on his left cheek, which had developed over the past 3 months. The tumour had a raised border and a central punched-out ulcer. He had travelled in Tunisia 6 months previously with much sun exposure. Although he had Fitzpatrick skin type II, he had never practised sun protection. Clinical examination did not reveal further signs of actinic damage; specifically he had no actinic keratoses. Since his stay in Tunisia, the patient had also a chronic dry cough. His cervical lymph nodes were normal on palpation and with ultrasound investigation. Magnetic resonance tomography showed no infiltration of adjacent soft tissue structures. Because of the rapid growth of the tumour and its macroscopic appearance, we suspected a keratoacanthoma. Histological examination revealed a well-differentiated but ulcerated SCC. Flow cytometric analysis of peripheral T-cells revealed an imbalance, with only 5 CD4+/CD3+-cells and 226 CD8+/CD3+ cells (ratio 0.02), indicating immunodeficiency and perhaps explaining the rapid growth of the tumour. Despite extensive counselling about a potentially underlying immunosuppressive disease, the patient rejected further HIV diagnostic procedures, as well as additional studies to clarify the cough (suspected Pneumocystis jiroveci pneumonia) and exclude metastases. He also rejected re-excision with wider margins and left the hospital against medical advice.

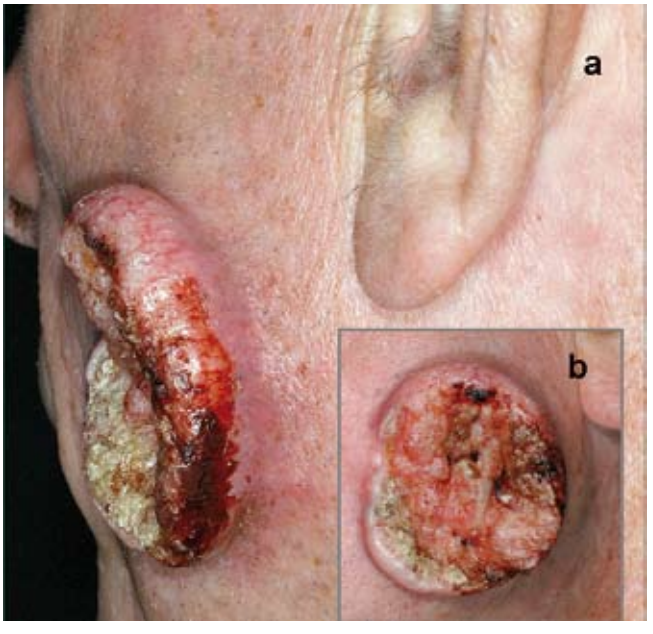

Fig. 1. The left cheek of a 50-year-old man with a large tumour. (a) Dorsal and (b) lateral aspect.

DISCUSSION

Keratoacanthoma (KA) was first described in 1889 by Jonathan Hutchinson as crateriform ulcer of the face. It most frequently presents as a rapidly growing skin tumour on sun-exposed areas (3). Men are affected

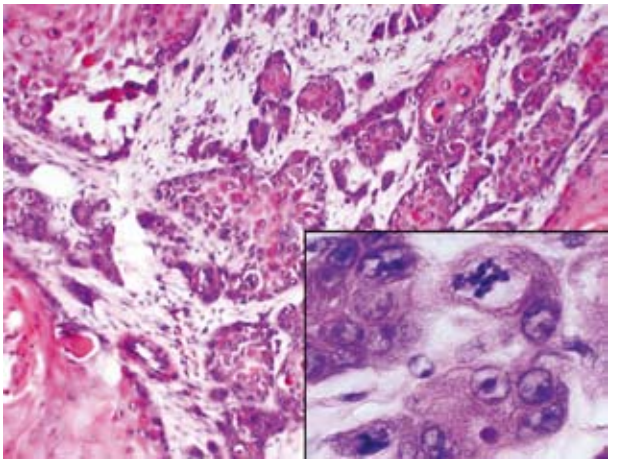

Fig. 2. Histological investigation revealed a deep infiltrating tumour, destroying the lesional anatomical structures. Insert: The tumour is composed of polymorphous keratinocytes with several mitoses (H&E ×200, with digital magnification).

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about 3 times more often than women. The adjusted age distribution shows that it is most frequent in middle-age and does not increase in incidence in elderly people (unlike basal cell carcinoma and SCC) (4). While SCC develop from surface epithelium, KAs are derived from the hair follicle wall just above where the sebaceous duct enters. They are a distinct entity with specific clinical and histological features (5). The tendency for spontaneous regression and the extensive degree of keratinization are the most striking features, along with the typical symmetric architecture of the tumour (6).

The exact nosology and classification of KA are a matter of debate. Some authors regard KA as a benign cutaneous tumour that is the prototype of the "pseudo-malignant" tumours of the skin, whereas others maintain that it is malignant neoplasm – a peculiar variant of SCC – and therefore should be treated like SCC (7–9). The diagnostic difficulties are especially true for the destructive, persistent variants of KA, such as giant KA or mutilating KA. Clinically, KA is differentiated from SCC by its history of rapid growth and its volcano-like shape. However, in the case described here a large SCC also showed very rapid growth, possibly because of HIV infection. Sometimes lesions regarded as KAs have to be reclassified as SCCs on the basis of their subsequent clinical course. In addition to a mistaken diagnosis, other explanations are the combination of KA and SCC as well as the transformation of KA to SCC. Moreover, some KAs may be well-differentiated variants of SCCs, as proposed by Ackerman (10–12).

Because of the difficulties in distinguishing between KA and SCC, the treatment of choice for all types of KAs is still surgical excision with histopathological verification of the diagnosis (8–10). If surgery is impossible, ionizing radiation can be considered. Several other therapeutic options, such as topical 5-fluorouracil, intralesional injections of interferon-alpha, methotrexate, or bleomycin and systemically administered retinoids, have been reported to be effective in individual cases, but there are no controlled clinical trials demonstrating the efficiency of these treatments (1, 4, 5).

Some SCCs may grow rapidly, mimicking a KA, as in the case described here. The reason for the rapid growth of KAs is unclear; several hypotheses having been offered, including immunosuppression and exposure to excessive sunlight. KAs, especially those that cannot clearly be distinguished from SCC, should be treated by wide surgical excision, as they may have an unfavourable prognosis with early development of metastases.

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