

Squamous Cell Carcinoma of the Nail Bed: A Rare Disease or Only Misdiagnosed?

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Sir,

Although squamous cell carcinoma (SCC) of the nail bed is a rare disease, it is the most commonly observed malignant subungual tumour (1, 2). Fewer than 150 cases have been reported in the literature (1). Diagnosis is often delayed because the lesion can mimic other more common benign conditions, therefore it is difficult to estimate the real incidence of this disease.

Although SCC of the nail bed is considered a low-grade malignancy, bone invasion and metastasis to the regional lymph nodes may occur. Fatal dissemination is only very occasionally reported (2, 3).

We recently observed two patients with SCC of the nail bed over a short period of time, as they had been sent to the mycological clinic for suspected mycosis

CASE REPORTS

The first patient, a 53-year-old woman, reported that, 2 years earlier, she had had a thin longitudinal area of onycholysis, associated with a purulent drainage, on her right third finger. She had been treated with oral and topical antibiotics. A year later the onycholysis reappeared, was believed to be a subungual pyogenic granuloma and was treated by surgical removal of the nail and granuloma. No biopsy was performed. When we saw the patient, she showed marked swelling of the distal phalanx, onycholysis and a vegetant serous area emerging from the underlying nail bed (Fig. 1A). Culture from the discharge showed growth of the saprophyte bacterium *Staphylococcus lugdunensis*. Microscopic observation and cultural examination for fungal infection were negative. Plain film radiography of the finger showed massive osteolysis of the distal phalanx associated with soft tissue swelling (Fig. 1B). A punch biopsy of the nail bed revealed SCC. The patient then underwent amputation of the distal phalanx of the affected finger: a poorly differentiated SCC with bone invasion resulted. There was no axillary lymphadenopathy.

The second patient, a 66-year-old man, presented with a slowly growing mass on his left thumb which he had had for about 2 years. The lesion had been treated as a bacterial infection, with no improvement. As he was a farmer, a history of repeated hammer traumas was reported; 20 years earlier the same finger had been crushed by a reaper. He had also had Hodgkin's lymphoma, which had been successfully treated with chemo- and radiation therapy 2 years earlier.

On clinical examination, an ulcerated nodule was observed near the proximal nail bed (Fig. 2). A nail bed biopsy revealed a poorly differentiated invasive SCC. An X-ray examination of the thumb revealed small calcifications in the soft tissues of the distal phalanx. Axillary lymphadenopathy was negative. Histological examination performed after amputation of the distal phalanx confirmed the diagnosis of SCC and showed that there was no bone involvement.

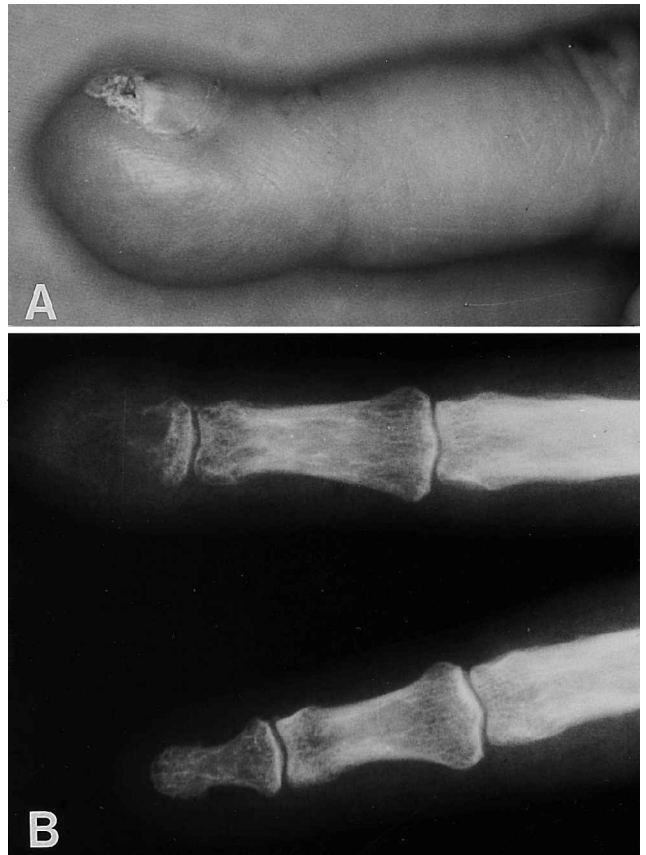


Fig. 1. Patient 1: (A) Swelling of distal phalanx, onycholysis and verrucous area emerging from the nail bed. (B) Osteolysis of the distal phalanx associated with soft tissue swelling.

DISCUSSION

SCC of the nail bed is prevalent in males after the fifth decade of life; it usually involves the thumb, the index finger and, only rarely, the toes (1, 4–6). The disease can arise from the nail bed, nail matrix, nail groove or lateral folds (1). Clinical features are not specific and may often resemble other diseases such as paronychia, onychomycosis, warts, nail deformity, ingrowing nail, pyogenic granuloma, subungual exostosis, chronic osteomyelitis, traumatic dyschromia of the nail plate (2, 6, 7). Thus, as signs and symptoms may be deceiving, anything up to 18 years may be necessary to complete a diagnosis (8–10) with, on average, a 4-year delay, with a range 1–14 years (9). Several predisposing factors have been reported: repeated trauma, chronic infection, roentgen radiation and exposure to sunlight, arsenic, tar or minerals. Some authors have demonstrated the presence of human papillomavirus (HPV) in the SCC of the nail bed and have stressed

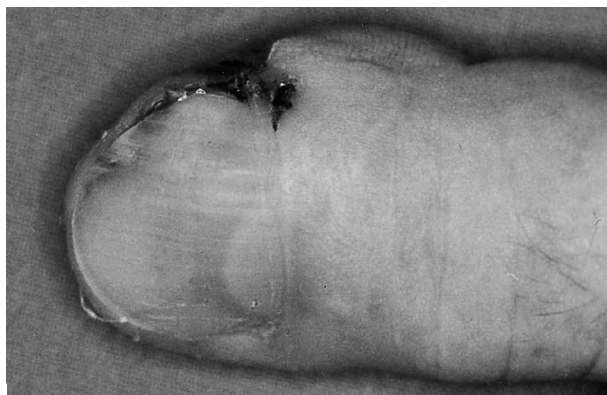


Fig. 2. Patient 2: Ulcer near the proximal nail bed.

the aetiological role of periungual or subungual HPV infection (7).

SCC is considered a low-grade malignant tumour, characterized by slow growth and little pain. Treatment depends on the extension of the tumour and may vary from wide local excision to amputation of the distal phalanx and lymph node dissection in the case of metastasis.

We performed the first-choice treatment; that is surgical excision up to the cancer-free margin. No radiation therapy was given as its efficacy is doubtful (3–13), even though its association with surgery is recommended by some authors (2).

SCC has a high incidence of bone invasion and low propensity to lymph node metastasis. Disseminated metastases have rarely been reported, although they are more frequent in relatively young patients (1, 3, 4, 11, 12) and are influenced by the histological degree of differentiation and the depth of invasion of the primary tumour. Disseminated metastases of SCC are associated with a high mortality rate. A 10-year follow-up is recommended, as lymph node or distant metastases may appear many years after treatment (2). A 12-month follow-up with roentgenographic and ultrasonographic study

showed that both our patients were free from disease. The predisposing factors for the development of SCC appeared to be a chronic subungual infection in the first patient and previous repeated trauma in the second patient.

Disorders of the nail apparatus are often considered "minor diseases", but we stress that if nail lesions are recurrent, persistent or insensitive to treatment, skin biopsy is advisable to prevent misdiagnosis and to single out rare but ambiguous subungual lesions such as achromic melanoma or SCC.

REFERENCES

1. Lai CS, Lin SD, Tsai CW, Chou CK. Squamous cell carcinoma of the nail bed. *Cutis* 1996; 57: 341–345.
2. Kouskoukis CE, Scher RK, Kopf AW. Squamous cell carcinoma of the nail bed. *J Dermatol Surg Oncol* 1982; 8: 853–855.
3. de Berker D, Derbyshire N. Squamous cell carcinoma of the nail bed. *Br J Radiol* 1993; 66: 849.
4. Lombardi LJ, Cleri DJ, Lashinsky AM, Papa TM, D'Amato RF. Squamous cell carcinoma of the nail bed. *South Med J* 1990; 83: 1098–1101.
5. Hazelrigg DE, Renne JW. Squamous cell carcinoma of the nail bed. *J Dermatol Surg Oncol* 1982; 8: 200–201.
6. Patel DU, Rolfes R. Squamous cell carcinoma of the nail bed. *J Am Podiatr Med Assoc* 1995; 85: 547–549.
7. Guitart J, Bergfeld WF, Tuthill RJ, Tubbs RR, Zienowicz R, Fleegler EJ. Squamous cell carcinoma of the nail bed: a clinicopathological study of 12 cases. *Br J Dermatol* 1990; 123: 215–222.
8. Mikhail GR. Subungual epidermoid carcinoma. *J Am Acad Dermatol* 1984; 11: 291–298.
9. Carrol RE. Squamous cell carcinoma of the nail bed. *J Hand Surg* 1976; 1: 92–97.
10. Failla JM. Subungual lipoma, squamous carcinoma of the nail bed, and secondary chronic infection. *J Hand Surg* 1996; 21: 512–514.
11. Campbell CJ, Klokarn T. Squamous cell carcinoma of the nail bed in epidermal dysplasia. *J Bone Joint Surg* 1966; 48: 92–99.
12. Fromer JL. Carcinoma of the nail bed: discussion. *Arch Dermatol* 1970; 101: 66–67.
13. Conill C, Verger E, Vilalta A, Palou J. Case report: squamous cell carcinoma of the nail bed. *Br J Radiol* 1993; 66: 163–164.

Malignant Granular Cell Tumour with Generalized Metastases and Polymyositis

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Sir,

Granular cell tumour is a rare, benign, soft tissue neoplasm. In 5.4–8.5% of cases it occurs with multiple lesions (1), and in 2% with malignant tumours (2, 3). A common characteristic of the cells is the presence of small cytoplasmic eosinophilic granulations. In terms of their histogenic origin, the results are not conclusive: fibroblasts, myoblasts, Schwann's cells, histiocytes and neurons have been discussed (4, 5).

Here we report on a 69-year-old female patient who was admitted to our hospital suffering from symptomatic polymyositis in the prefinal stage due to a generalized malignant granular cell tumour with metastases in the skeletal musculature. Her clinical course was similar to that of a patient

whose case was published in 1974 (6). The primary lesion could not be identified.

CASE REPORT

The patient was presented to our department in November 1999 with a history of multiple subcutaneous nodules during the previous 2 years. Physical examination revealed more than 100 nodules, 1–1.8 cm in diameter, oval or round, tense, mobile and covered by erythematous, smooth or verrucous skin localized to the trunk, extremities and neck, and with one nodule in the upper margin of the lip.