

Squamous Cell Carcinoma of the Nail Bed

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To the Editor: A 57-year-old male presented to the clinic with a 1-year history of mass underneath his left fourth fingernail. Notably, he reported trauma to the subungual area of the fingernail 5 years ago. Thereafter, it did not heal and a mass emerged with tenderness, periungual swelling, and redness. A mycologic evaluation was negative. Then, topical antibiotic was prescribed. However, the mass enlarged gradually, with bleeding, ulceration, and crust. The patient had been smoking 20 cigarettes per day for 11 years, from age 21 to 32 years old, while no smoking since then.

Physical examination revealed a red subungual mass with crust on top and onycholysis [Figure 1a and 1b]. The nail was removed, and subsequently, the visible subungual mass was excised. Dermoscopy did not show typical longitudinal melanonychia or erythronychia, irregular vascularity, or hemorrhage [Figure 1c]. Histopathological examination of the specimen revealed poorly to moderately differentiated squamous cell and keratinocyte atypia, with atypical mitotic figures involving all layers of the dermis. In addition, the margin was positive [Figure 1d-1f]. Therefore, squamous cell carcinoma (SCC) was diagnosed. Real-time fluorescent polymerase chain reaction of human papillomavirus (HPV) 6, 11, 16, and 18 of the specimen revealed negative. Chest radiography and whole-body technetium-99 m bone scanning did not reveal any evidence of metastases. The patient was referred to the hand surgery department, and distal digital amputation was performed.

SCC of the nail bed is an uncommon neoplasm. It most commonly affects the fingernails of middle-aged men, with a peak incidence between 50 and 69 years of age. Studies have shown strong associations with immunosuppression, current or previous tobacco use, toxin/radiation exposure, and trauma.^[1] A number of studies have confirmed a causative role for HPV, mostly HPV16, in the development of this tumor. Bone involvement may occur but metastases are extremely rare. The most common clinical signs of SCC of the nail unit are, in decreasing order, subungual hyperkeratosis, onycholysis, oozing, and nail plate destruction.^[2] The tumors are usually growing slowly, simulating other benign conditions, such as chronic paronychia, onychomycosis, pyogenic granuloma, or verruca vulgaris. Besides, SCC of the nail bed needs to be distinguished from other malignant tumors, such as verrucous carcinoma and melanoma. Verrucous carcinoma is a rare, highly keratinizing

variant of SCC that is characterized by local aggressiveness but a low potential for metastasis. Histopathologic findings of verrucous carcinoma include hyperkeratosis, parakeratosis, and marked acanthosis.^[3] Melanoma arising from the nail bed accounts for 30% nail apparatus melanoma and presents as a nodule that may be pigmented, an ulceration with bleeding, or an isolated

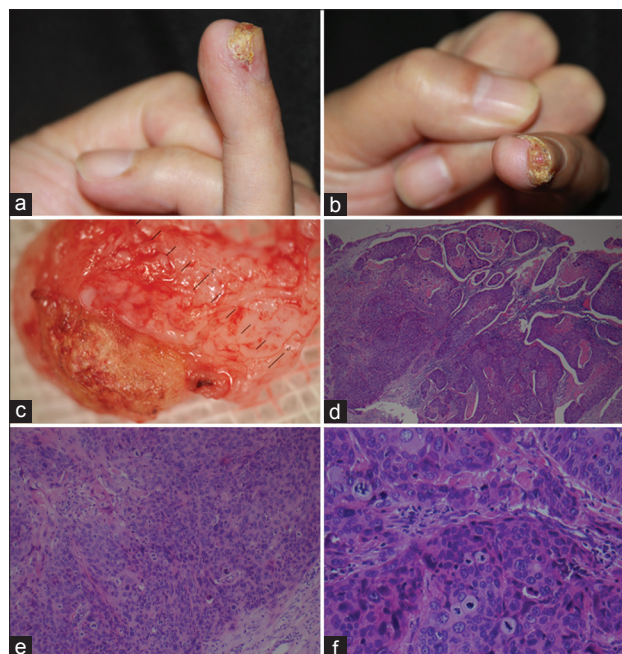


Figure 1: Clinical findings: A red subungual mass with crust on top and onycholysis (a and b). Dermoscopy image of the mass after excision (c). (d and e) Irregular cell masses involving all layers of the dermis (d: H and E, original magnification $\times 4$; e: H and E, original magnification $\times 20$). (f) Poorly to moderately differentiated squamous cell and keratinocyte atypia, with atypical mitotic figures (H and E, original magnification $\times 40$).

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fold pigmentation, unexplained monodactylic paronychia, or partial destruction of the nail plate. In addition, about 20–30% of cases of nail apparatus melanoma are amelanotic and need more consideration.^[4] There are multiple effective treatment possibilities, including Mohs surgery, distal digital amputation, and radiotherapy. The study shows that Mohs surgery provides the highest cure rate for the treatment of nail SCC and should be considered the first-line surgical approach.^[5]

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Tang N, Maloney ME, Clark AH, Jellinek NJ. A retrospective study of nail squamous cell carcinoma at 2 institutions. *Dermatol Surg* 2016;42 Suppl 1:S8-17. doi: 10.1097/DSS.0000000000000521.
2. Lecerf P, Richert B, Theunis A, André J. A retrospective study of squamous cell carcinoma of the nail unit diagnosed in a Belgian general hospital over a 15-year period. *J Am Acad Dermatol* 2013;69:253-61. doi: 10.1016/j.jaad.2013.02.008.
3. Matoso A, Jellinek N, Telang GH. Verrucous carcinoma of the nail unit. *Am J Dermatopathol* 2012;34:e106-10. doi: 10.1097/DAD.0b013e31825fa1d6.
4. Richert B, Lecerf P, Caucanas M, André J. Nail tumors. *Clin Dermatol* 2013;31:602-17. doi: 10.1016/j.clindermatol.2013.06.014.
5. Dika E, Fanti PA, Patrizi A, Misciali C, Vaccari S, Piraccini BM. Mohs surgery for squamous cell carcinoma of the nail unit: 10 years of experience. *Dermatol Surg* 2015;41:1015-9. doi: 10.1097/DSS.0000000000000452.