Warty papule and scaling around finger

Attempts at removing the erythematous papule using cryotherapy had failed. A biopsy confirmed our suspicions.

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A 35-year-old Caucasian man was referred to our clinic for treatment of a nonhealing "wart-like" growth on his left index finger. He said that the lesion had been there for at least 2 years and complained of extensive periungual erythema and scaling of the same finger. The patient was immunocompetent and denied trauma, chronic nail infection, arsenic exposure, or radiation to this particular finger. On several occasions, liquid nitrogen cryotherapy had been used on the growth, without improvement.

Physical examination revealed a well-demarcated erythematous patch with scaling involving the medial and proximal periungual areas of the left index finger (**FIGURE**). There was also a distinct, rough-surfaced 5 × 4 mm papule with scales, crusts, and small fissures in the middle of the patch. In addition, there was onychodystrophy with keratotic debris on the medial aspect of the same finger. Our attempt to scrape this papule failed and was painful for the patient.

The other nails were normal. Review of the patient's systems, family history, and personal history were otherwise unremarkable. We biopsied the lesion.

What is your diagnosis?

How would you manage this condition?

FAST TRACK

The patient was immunocompetent and denied trauma, chronic nail infection, arsenic exposure, or radiation to his finger.

FIGURE

Erythematous patch and rough-surfaced papule

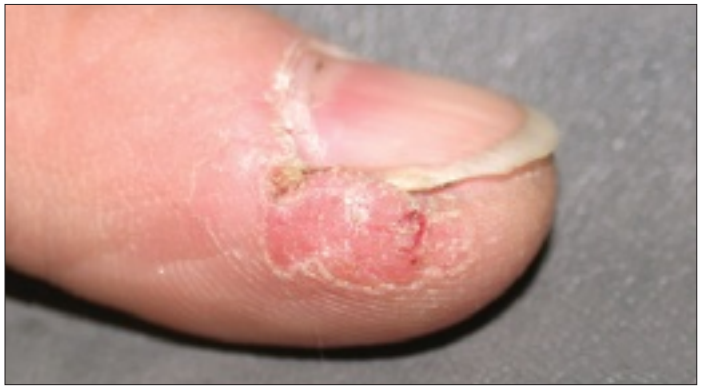

PHOTO COURTESY OF AMOR KHACHEMOUNE, MD, CWS

The 35-year-old patient had a well-demarcated erythematous patch with scaling on the medial and proximal periungual areas of his left index finger. He also had a 5 x 4 mm rough-surfaced papule with scales, crusts, and small fissures.

Dx: Bowen's disease of the nail

Bowen's disease (BD), a form of intraepidermal (in situ) squamous cell carcinoma (SCC), may affect the skin but also the nail unit. It presents as periungual or subungual verrucous plaques, erosions, and ulcerations, with nail discoloration, dystrophy, or onycholysis.

Our patient was younger than the norm. BD of the nail—which typically involves the fingers—occurs in both men and women, but is most common in men in their 50s. It often presents with verrucous, scaly, crusting, erythematous, or fissuring lesions that may involve any portion of the nail apparatus with associated onycholysis, nail dystrophy, or longitudinal erythronychia or melanonychia (red or black longitudinal nail streak).[1-6] BD of the nail may involve more than one digit on multiple extremities, simultaneously or sequentially.[5] Initial BD of the nail may spread to periungual or subungual areas or vice versa. Bleeding, ulceration, or a nodule may signal the development of invasive SCC.[3,6]

FAST TRACK

Biopsy all chronic and recalcitrant lesions of the nail apparatus to rule out Bowen's disease.

Radiation and HPV linked to BD of the nail

While the etiology of this condition is unclear, trauma, chronic paronychia, ionizing radiation, infectious agents, ultraviolet exposure, arsenic or pesticide exposure, and immunosuppression are a few proposed predisposing factors.[1,3,4,6]

Human papilloma virus (HPV) subtypes 16, 34, and 35 have been identified in BD and SCC lesions. These subtypes with oncogenic potential may play a role in the development of BD and invasive SCC of the nail and other cutaneous regions.

In cases where there has been HPV-16 infection in a digit and the genital region, researchers have suggested autoinoculation as a transmission mode from the anogenital area to the digit, or vice versa.[6-8]

The pathogenesis behind polydactylous BD of the nail has been linked to factors such as trauma, radiation, and immunosuppression (eg, post-transplant, oncological, and HIV patients).[5,8]

Differential includes onychomycosis, eczema

The differential for BD of the nail includes onychomycosis, paronychia, verruca vulgaris, eczema, pyogenic granuloma, glomus tumor, and verrucous tuberculosis. The differential also includes: subungual exostosis, onychomatricoma, amelanotic malignant melanoma, keratoacanthoma, fibrokeratoma, and gouty tophus.

Irregular borders and the presence of a scaly patch with papules should raise your suspicion of BD. Biopsy is necessary to confirm your suspicions. In fact, all chronic and recalcitrant lesions of the nail apparatus should be biopsied to rule out BD.[9]

Biopsy with care

The matrix is a germinating portion of the nail and requires special care, because damage to it may permanently affect nail formation and function. Proper anesthesia and hemostasis are also key, given that the nail apparatus is very vascular and well innervated.[9]

The histopathology of BD lesions is characterized by hyperkeratosis; parakeratosis; loss of orderly maturation, polarity, and a granular layer; and keratinocytic atypia involving the entire acanthotic epithelial layer. The atypia and dyskeratosis are confined to the epidermis. However, some microscopic specimens of BD may simultaneously demonstrate features of invasive SCC in other areas of the lesion. Microinvasion is common in long-term BD with reports of invasive carcinoma in approximately 15% of cases.[4-6,9]

Consider CO_2 laser therapy, Mohs surgery

Various therapeutic modalities have been used for BD of the nail, including electrodesiccation and curettage, 5% fluoro-

uracil cream (Efudex), cryosurgery, and radiotherapy. Most of these treatments have not been successful and are associated with high recurrence rates.[10-12]

Simple excision of nail bed and matrix is successful in small and localized BD lesions. CO_2 laser therapy for periungual BD has been reported to have up to an 80% cure rate, with less scarring and contractures when compared with surgical excision.[10] Recently, imiquimod (Aldara 5% cream) has been used with success for BD of the nail—especially recurrent disease.[11]

Mohs surgery is considered the best treatment approach, with cure rates of up to 96%.[12] Mohs surgery allows for adequate depth of tumor resection, great preservation of normal digit function, and excellent cosmetic results, with healing by secondary intention. Although the 5-year recurrence rate after Mohs surgery is small (about 3%), it is still a good idea to follow the patient closely to assess for a potential relapse.

If invasive SCC is suspected, the patient's regional lymph nodes should be evaluated for possible metastasis. Radiologic study of the digit(s) to assess for bone invasion should also be considered. Amputation of the affected digit, although a drastic measure, is an option if there is evidence of bone involvement.[13]

Our patient's course. After discussing the different treatment options with our patient, we referred him to plastic surgery for wide excision. He was subsequently lost to follow up. ■

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Disclosure

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FAST TRACK

Mohs surgery has cure rates of up to 96%.