Onychomatricoma: A Rare Nail Tumor with an Unusual Clinical Presentation

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Established Facts

- Onychomatricoma is a rare, benign, fibroepithelial tumor of the nail matrix typically occurring in light-complexed individuals.
- To date there have been 5 reported cases of giant onychomatricoma, all with a reported history of prior trauma.

Novel Insights

- Onychomatricoma can also occur in dark-complexed individuals.
- Giant onychomatricoma may present in an individual denying history of trauma to the region after several years of onychomycosis.

Keywords

Clinical dermatology · Dermatology · Diagnosis · Fungal infection · Medical dermatology · Mycoses · Nail · Nail tumor · Onychomatricoma · Onychomycosis

Abstract

First described in 1992, onychomatricoma is a rare, benign, fibroepithelial tumor of the nail matrix with few reported cases in the literature. The tumor predominately affects the fingers of Caucasian women during the 5th decade of life and is typically slow growing and painless. The authors present a unique clinical presentation of a giant onychomatricoma in a darker-skinned 60-year-old South Asian individual who presented with a large dome-shaped nail that was smooth, shiny, and green.

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Case Presentation

A 60-year-old South Asian male presented with a 20-year history of discoloration and thickening of the nail on the left great toe. History revealed that he had a diagnosis of onychomycosis treated with nail avulsion and that the nail had regrown abnormal afterwards. He had been using topical ciclopirox for 2 years without improvement. Apart from cutting the nail and application of ciclopirox solution, the patient denied any other treatment of or trauma to the affected region.

Dermatologic examination revealed a large smooth, shiny, dome-shaped, thickened nail with green, yellow, and brown discoloration as well as longitudinal and transverse overcurvature of the nail plate (Fig. 1). All other toenails were unaffected. A radiograph of the left foot was obtained and revealed no evidence of fracture, bony erosion, or periosteal reaction. Dermoscopy showed an opaque uniformly ivory-colored nail plate. Nail avulsion revealed a nail matrix tumor with projections inside the nail plate (Fig. 2). Surgical excision was performed and a specimen sent for histopathology, with features consistent with onychomatricoma.

Fig. 1. Large dome-shaped thickened nail, presence of xanthonychia, as well as longitudinal and transverse curvature.

Fig. 2. Intraoperative image revealing the tumor's finger-like filiform projections.

Table 1. Giant onychomatricoma in the literature

Reference	Age, sex, race	Location	Clinical history	Treatment/therapy	Recurrence
Prevezas et al. [12]	73 years, male, Caucasian	left great toenail	farmer with over a decade of minor trauma and nail dystrophy	surgical excision	no recurrence after 1 year of follow-up
Fierro-Arias et al. [11]	53 years, male, Mexican	right third toe	schoolteacher with a 1-year history of posttraumatic lesion	surgical excision	no recurrence after 2 years of follow-up
Saranya et al. [13]	80 years, female, Indian	left great toenail	painless growth for 2 years and history of trauma to the nail by a blunt object a few months before onset of the mass	surgical excision	no recurrence after 1 week, then lost to follow-up
Estrada-Chavez et al. [10]	case 1: 59 years, male, Mexican; case 2: 45 years, female, Mexican	case 1: right thumbnail; case 2: left thumbnail	case 1: 2-year history of painful tumor with previous trauma; case 2: 3-year history of gradual nail dystrophy, initially treated unsuccessfully for months with antimycotics, also with self-induced trauma to reduce size	case 1: avulsion of the nail plate; case 2: excisional biopsy of tumor and nail matrix	not reported
Current publication	60 years, male, South Asian	left great toenail	20-year history of discoloration and growth	excisional biopsy of tumor and nail matrix	no recurrence after 3 months of follow-up

Discussion

First described by Baran and Kint in 1992 [1], onychomatricoma is a rare, benign, fibroepithelial tumor of the nail matrix with no more than 80 reported cases in the literature. The tumor predominately affects the fingers of Caucasian women during the 5th decade of life and is

typically slow growing and painless [2]. Clinically, onychomatricoma presents with xanthonychia, nail thickening, splinter hemorrhages, longitudinal and transverse overcurvature of the nail plate, and woodworm cavities at the distal margin of the nail plate. Other clinical presentations include longitudinal melanonychia, nail dystrophy, subungual hematoma, as well as nodular and dorsal pte-

rygium [3]. Avulsion of the nail plate typically reveals a filamentous tumor with multiple tufted, filiform projections arising from the nail matrix projecting onto the nail plate. Histopathological evaluation can confirm the diagnosis, revealing multiple fibroepithelial projections arising from the nail matrix with “glove finger” digitations projecting onto the nail plate [4]. Other modalities that have been shown to aid in the diagnosis of onychomatricomas include nail clipping [5], dermoscopy [6], ultrasound [7], and confocal microscopy [8]. The treatment of choice is nail avulsion with complete surgical excision of the entire matrix proximal to the tumor in order to avoid the risk of recurrence [9]. Recurrence rates are unknown, though few series with long-term follow-up have been reported in the literature.

We report a unique clinical presentation of a giant onychomatricoma in a darker-skinned South Asian individual who presented with a large dome-shaped nail that was smooth, shiny, and green. Most of the reports on onychomatricoma present tumors found only in a portion of the

nail plate, demonstrated by a superficial band-like pattern of yellowish discoloration with increased transverse curvature of the nail. To date there have been 5 reported cases of giant onychomatricoma (Table 1), all of them with a history of prior trauma [10–13]. Interestingly, all tumors were found to be located on the great toenail or thumbnail, which are areas that are potentially more susceptible to trauma. While onychomatricoma has been reported more commonly in Caucasians [2], only 1 out of 6 cases (including ours) of giant onychomatricoma was of Caucasian descent.

Statement of Ethics

The patient’s consent for publication was obtained.

Disclosure Statement

The authors have no conflicts of interest to disclose.

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