

CASE 16

A 33- year-old Thai woman from Bangkok

Chief complaint:

Discolouration and roughening of finger and toe nails for 1 year before coming to the hospital.

Present illness:

One year ago, she developed nail dystrophy that gradually increased. All her finger and toe nails were involved. They were dull with yellowish colour and roughened surface.

Past and Family history:

Unremarkable

Physical examination:

Finger nails: longitudinal ridging, thinning , onychoschizia, roughness of nail surface.

Toe nails: Yellow onychauxis , longitudinal ridging, roughness of nail surface.

There was no skin, scalp and oral cavity lesion.



Fig. 16.1

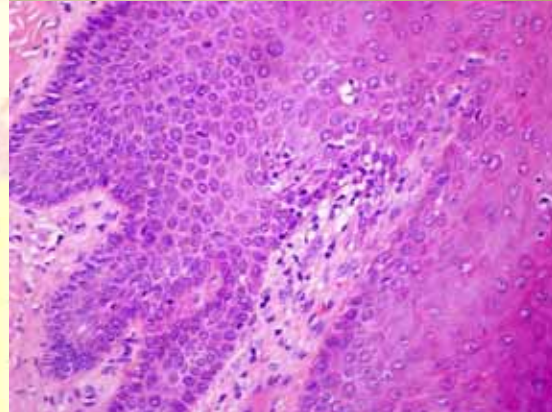


Fig. 16.2

Histopathology (S06-09263)

Compact orthokeratosis , psoriasiform epidermal hyperplasia of the nail matrix .

Superficial inflammatory cell infiltrate in the upper dermis
Small foci of spongiosis and lymphocytic infiltrate

Investigation

KOH preparation: negative

Nail culture for Fungus : No growth

Diagnosis: Twenty-nail dystrophy

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Treatment: Improve after treatment with intralesional and systemic steroid.

Discussion:

Our patient present with idiopathic nail abnormalities in all 20 nails. All of finger nails show thinning and fragility, but toe nails show opaque, lusterless in surface. Both finger and toe nails show longitudinal ridging due to fine superficial striation and diffuse homogeneous roughness. Microscopic examination and nail cultures revealed no fungi. We thus diagnosed twenty-nail dystrophy or trachyonychia.

The term trachyonychia was first coined by Alkiewicz in 1950 to describe idiopathic nail roughness. Hazelrigg et al. in 1977, reported 6 children with idiopathic nail roughness in all nails under the diagnosis of twenty-nail dystrophy. The prevalence is unknown, but it more common in children. In an outpatient consultation for nail disorder, Tosti found that 45 of 2,951 (1.5%) patients had trachyonychia, among this 12.3 % were children (26 of 210) and 0.6 % were adults (19 of 2741). It occurs in about 3.65 % of patient with alopecia areata. The frequency is closely related to the severity i.e. 2.2% in patchy alopecia areata, 3.7% in alopecia totalis and 15.4% in alopecia universalis.

The number of nail affected may vary in different patient and finger nails are affected more than toe nails.

Baren described two clinical varieties of trachyonychia

1. Opaque trachyonychia: The nails are opaque, lusterless, and rough. Nail plate shows longitudinal ridging due to fine superficial striation distributed in a regular parallel pattern. This type of pathogenesis is severe and persistent inflammation.
2. Shiny trachyonychia: The nails are shiny and show myriad small punctuate depression distributed in a geometric fashion along longitudinal parallel lines. In this type of pathogenesis is mild and more intermittent inflammation.

The shiny and opaque type may coexist in the same patient. Most commonly trachyonychia is due to spongiotic change of proximal nail matrix, so several inflammatory diseases of nail may produce trachyonychia such as lichen planus and psoriasis.

Treatment of trachyonychia that have been reported included intralesional steroid, topical PUVA, biotin (2.5 mg/day for 6 months) and 5-fluorouracil cream. These can improve lesions but not actually effective. Recently, 0.1% tazarotene gel has been reported for successful treatment in trachyonychia. Another interesting case of trachyonychia caused by lichen planus in a gold allergic patient had marked improvement after removal of his gold dental filling. So the cause of trachyonychia should be investigated and treated accordingly for the successful treatment. However, most of the cases are idiopathic. Cosmetic camouflage with nail lacquers can be utilized to improve the nails of patients with shiny trachyonychia.

References:

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2. Soda R, Diluvio L, Bianchi L. Treatment of trachyonychia with tazarotene. *Clin Experiment dermatol* 2005;30:294-307.
3. Yokozeki H, Niiyama S, Nishioka K. Twenty-nail dystrophy (trachyonychia) caused by lichen planus in a patient with gold allergy. *Br J Dermatol* 2005;152:1087-90.

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