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A Case of Idiopathic Twenty-Nail Dystrophy

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Abstract

Observation: Twenty-nail dystrophy is a self-limiting, idiopathic, non-congenital nail disorder. Clinically, all nails are involved uniformly and simultaneously. Although commonly being idiopathic, twenty-nail dystrophy has been reported to be associated with the several diseases including vitiligo, alopecia areata, alopecia universalis, ichthyosis vulgaris, selective Ig A deficiency and inkontinentia pigmentia. This paper reports a case diagnosed as idiopathic twenty-nail dystrophy.

Introduction

Twenty-nail dystrophy (TND) was first described in 1977 by Hazelrigg, Duncan&Jarratt as a self-limiting, idiopathic, non-congenital nail disorder. Clinically, all nails are involved uniformly and simultaneously [**1**]. TND is characterized by intensive longitudinal stripes, coarsened nail plates, loss of brightness and appearance of sandpaper. Nail changes can be regressed within a few years or can continue until the adult age [**2**]. Here we describe an idiopathic twenty-nail dystrophy in a child.

Case Report

A nine year old male patient presented to our clinic with the complaint of having nail disorders for approximately 1 year. There was no history of diseases or drug use. Family history revealed psoriasis in the grandfather. There were no similar nail changes in other family members. Dermatologic examination revealed excessive longitudinal ridging, loss of brightness and appearance of sandpaper in in all fingernails and toenails (**Figure 1**). Skin, hair, teeth and oral mucosa were normal. Other system examinations showed no abnormal finding. Routine laboratory examinations were within normal range. KOH microscopical examination revealed no fungal spore or hypha.

Biopsy of nail matrix was obtained from the patient. Histopathological examination revealed squ amous epithelium showing a small area of hyperkeratosis on the surface. There was minimal perivascular chronic inflammatory cell infiltration in the subepithelial area (**Figure 2**). No finding was observed in the favor of lichen planus or psoriasis.

In the light of available clinical and histopathological findings, the diagnosis of idiopathic TND was made.

Discussion

TND has been reported to be associated with the several diseases including vitiligo, alopecia areata, alopecia Universalis, ichthyosis vulga-

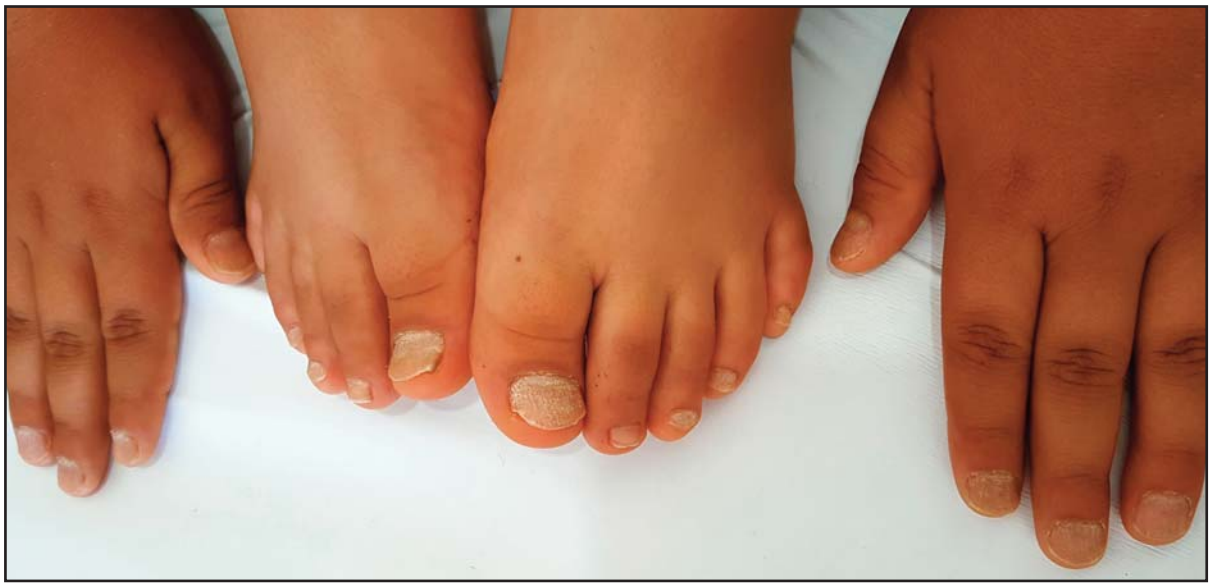

Figure 1. Excessive longitudinal ridging, loss of brightness and appearance of sandpaper in in all fingernails and toenails

ris, selective Ig A deficiency and inkontinentia pigmentia [**3,4**].

The differential diagnosis includes psoriasis, lichen planus and alopecia areata [**5**]. The histopathological examination of our patients showed no findings of lichen planus or psoriasis. There was also no clinical finding in the favor of these two diseases. Therefore, the diagnosis of idiopathic TND was made.

In 2012, a Korean study including 88 patients divided TND morphologically into 5 subgroups which are atrophic, hypertrophic, pitting-dominant, superficial fissures-dominant and deep fissure-dominant types [**3**].

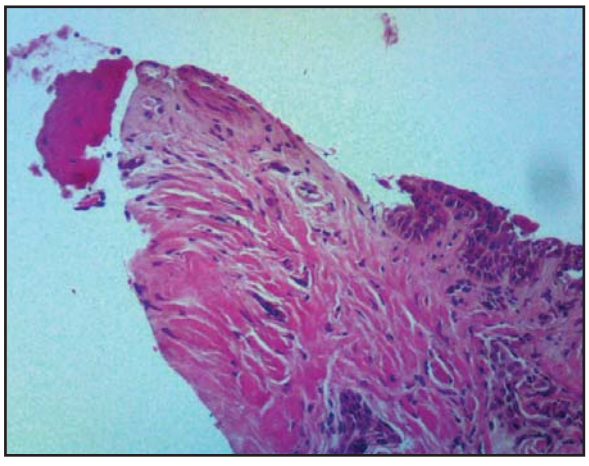

Figure 2. Light microscopic appearance of the lesion (hematoxylin-eosin stain, x100)

The definitive diagnosis of TND requires nail matrix biopsy. Histopathological examination reveals spongiotic inflammatory changes, lichenoid infiltrates and/or psoriasiform changes [**6,7**]. Our case showed minimal perivascular chronic inflammatory cell infiltration in subepithelial area.

Although commonly being self-limiting and seen in childhood, parents are usually anxious and in the hope of cure. Topical corticosteroids or intramatrix corticosteroid injections can be used but there is a risk of early closure of the underlying epiphyseal plate [**8**]. Topical PUVA (psoralen plus UVA) and low-dose cyclosporine may be beneficial and may increase the quality of life [**9,10**].

The patient and parents were informed about the course of the disease and control visits were scheduled. Because idiopathic TND is a relatively rare disease, it was favoured to present the case.

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