

## Twenty-Nail Dystrophy in Vitiligo

Evren Odyakmaz Demirsoy,\* MD, Burcu Öztürk, MD, Nilgün Bilen, MD

Address: Kocaeli University Medical Faculty, Department of Dermatology, Kocaeli, Turkey

E-mail: evrenodyakmaz@yahoo.com

\* Corresponding Author: Evren Odyakmaz Demirsoy, MD, Kocaeli University Medical Faculty, Department of Dermatology, 41380, Kocaeli, Turkey

Published:

J Turk Acad Dermatol 2012; 6 (4): 1264c3

This article is available from: <http://www.jtad.org/2012/4/jtad1264c3.pdf>

**Key Words:** Nail disorders, vitiligo, twenty-nail dystrophy, trachyonychia

### Abstract

**Observation:** Twenty-nail dystrophy (TND) is an uncommon nail disturbance that usually occurs in childhood. It may be accompanied by some dermatological and systemic diseases. Alopecia areata, psoriasis and eczema are commonly associated diseases with TND, however vitiligo is not frequently seen in TND. We report a patient with TND who also has vitiligo.

### Introduction

Twenty-nail dystrophy (TND) is an uncommon nail disturbance that usually occurs in childhood. Herein we present a patient with TND who also has vitiligo.

### Case Report

A 7-year-old girl was admitted to our outpatient clinic with white patches on her skin for 4 months and nail dystrophy for a year. Her medical history was unremarkable and her parents denied having atopy. Dermatological examination revealed well-defined white patches on her axilla, which were distinct under wood lamp, surrounding a nevus on her back and leucotrichia (Figures 1a, 1b). All her fingernails had pitting and longitudinal ridging in addition to these findings toenails also were rough and subungual hyperkeratosis was seen (Figure 2) Alopesic patch or psoriasiform plaque was not detected on examination and in her past medical history. No hyphae, pseudohyphae, yeast or spores were detected on the native examination of the

nail. Fungal culture was negative. Complete blood count and thyroid function test results were within the normal limits. Parents of the patient did not permit us to get a biopsy specimen from her nail. Patient was diagnosed as vitiligo, halo nevus and 20-nail dystrophy according to these clinical and laboratory findings.



**Figure 1a.** Well-defined white patch on axilla



**Figure 1b.** Halo nevus on the back



**Figure 2.** Trachyonychia on the fingernails and toenails

## Discussion

Twenty-nail dystrophy or trachyonychia is a morphological explanation of dystrophic nails that is idiopathic or can be caused by several inflammatory disorders [1]. It may affect single or all twenty nails and it is usually bilateral and symmetrical [2]. Alternating elevation and depletion, pitting, excessive longitudinal striation of the nail plate, loss of nail luster, thin, fragile, rough and/or split nails and grayish-white change in color are commonly present [2]. All twenty nails were affected in our case.

Alopecia areata, lichen planus, atopic dermatitis and eczema are the most common seen diseases in association with TND [3]. It has also rarely been reported to be related with ichthyosis vulgaris, incontinentia pigmenti, IgA deficiency, hemolytic abnormalities, immune thrombocytopenic purpura and autoimmune hemolytic anemia [2]. Coexistence of vitiligo and TND is an extremely rare condition with five case reports in literature [1, 4, 5, 6, 7]. Vitiligo is an autoimmune disease that is characterized with depigmented patches on the skin. Unlike psoriasis, alopecia areata or lichen planus the nail is not expected as an involvement site in vitiligo and there is no study in literature about nail findings in patients with vitiligo. Absence of the any inflammatory, autoimmune or systemic disease except vi-

tiligo in our case and presence of the other case reports in the literature led us think that the association of TND and vitiligo might not be just a coincidence.

The pathogenesis of TND is not known yet. It is thought that nail changes are primarily due to an autoimmune process since the frequent association with autoimmune dermatoses. In vitiligo a common autoimmune activity against the nail matrix and melanocytes was suggested to be the possible cause of this correlation [4].

TND usually has spongiotic changes but lichenoid and psoriasiform changes have also been reported in histopathologic examinations [2, 4].

We presented this case to emphasize that vitiligo had to be kept in mind during the evaluation of patient with TND.

## References

1. Peloro TM, Pride HB. Twenty-nail dystrophy and vitiligo: a rare association. *J Am Acad Dermatol* 1999; 40: 488-490. PMID: 10071326
2. Sehgal VN. Twenty nail dystrophy trachyonychia: an overview. *J Dermatol* 2007; 34: 361-366. PMID: 17535400
3. Tosti A, Piraccini B. Biology of nails and nail disorders. In: *Fitzpatrick's Dermatology in General Medicine*.

- Eds. Wolf K, LA. G, Katz S, Gilchrist B, Paller A, Lefell D. 7th Edition. New York, Mc Graw Hill, 2008; 778-794.
4. Khandpur S, Bansal A, Sharma VK, Bhatti SS, Singh MK. Twenty nail dystrophy in vitiligo. *J Dermatol* 2007; 34: 189-192. PMID: 17291300
  5. Khandpur S, Reddy BS. An association of twenty-nail dystrophy with vitiligo. *J Dermatol* 2001; 28: 38-42. PMID: 11280463
  6. Rajashekar TS, Singh G, Rajkumar V. Segmental vitiligo and twenty-nail dystrophy: an unusual association. *Indian J Dermatol Venereol Leprol* 2008; 74: 661-662. PMID: 19172003
  7. Barth JH, Telfer NR, Dawber RP. Nail abnormalities and autoimmunity. *J Am Acad Dermatol* 1988; 18: 1062-1065. PMID: 3385025