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Terry's nails sign in a girl with autoimmune hypothyroidism and familial hyper-CK-emia

Dear Editor,

A 12-year-girl presented with a progressive discoloration of the nail bed over the last few months. At evaluation, she presented uniform whitish discoloration of all fingernails with disappearance of the lunula and slightly hyperchromic transversal streaks (Fig. 1); findings were consistent with "Terry's nails." Toenails were substantially unaffected. The remainder of the physical examination was normal.

Two years earlier, the patient was diagnosed as having a familial isolated hyper-CK-emia (also present in the father and grandmother) and positive antinuclear antibodies (1 : 160 on Hep-2 cells). A paternal uncle with Brugada ECG pattern suddenly died at the age of 21. Rest and stress ECG of the patient were normal.

During admission, the patient underwent thorough re-evaluation. Complete blood count, inflammatory markers, and laboratory testing of renal and hepatic function were all within limits; CK (1969 U/l), aldolase (9.5 U/l), and lactate dehydrogenase (361 U/l) were elevated. The patient also demonstrated subclinical hypothyroidism (thyroid-stimulating hormone 6.27 mIU/l, with normal free triiodothyronine and free thyroxine), with positive thyroid autoimmunity markers (anti-thyroglobulin antibodies 358.1 kU/l, anti-thyroid peroxidase antibodies 355.4 kU/l). Thyroid ultrasound was consistent for autoimmune thyroiditis, for which levothyroxine supplementation was started.

Capillaroscopy of the nail bed showed a nonspecific microangiopathy.

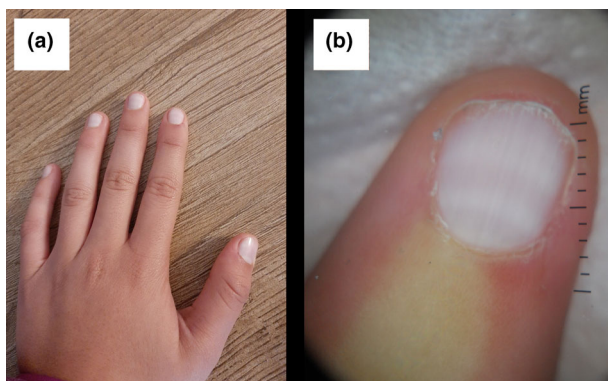


Figure 1 (a) Uniform whitish discoloration of all fingernails with disappearance of the lunula; (b) dermatoscopy of the nail bed, showing uniform whitening with slightly hyperchromic transversal streaks

"Terry's nails" owe their name to Richard Terry, who first described nail bed "ground-glass-like" whitening in 1954, in 82 out of 100 patients with a diagnosis of hepatic cirrhosis.¹


More recently, Holzberg et al. correlated this finding not only with cirrhosis but also with chronic congestive heart failure, adult-onset diabetes mellitus, and age.² Tissue biopsy in these patients showed that nail abnormalities were due to distal teleangiectasia: in general, authors concluded that changes in nail bed vascularization, with overgrowth of connective tissue, were the consequence of altered metabolism in chronic patients. They also concluded for an increased risk of systemic disease in young patients with this nail disorder.

Finally, hyperthyroidism was related to Terry's nails in a more recent review by Fawcett et al.³; to our knowledge, however, association of Terry's nails with autoimmune hypothyroidism and familial hyper-CK-emia represents a novel finding.

The differential diagnoses of Terry's nails include Lindsay's nails (or half-and-half nails), in which the whitish appearance is concentrated in the proximal part, while the distal portion (20–60% of the nail bed) is reddish-brown, and does not fade with pressure. This coloration may be due to an increased concentration of melanocyte-stimulating hormone and is rather specific (10% prevalence) in patients with chronic kidney disease.^{4,5}

Another differential is represented by Muehrcke's nails, in which multiple whitish transverse bands parallel to the lunula are visible, more typically in the second, third, and fourth fingers. This condition seems associated with severe hypoalbuminemia or antineoplastic drugs (particularly in patients treated with multidrug chemotherapy protocols).⁵

Finally, longitudinal pigmented bands are normal findings in the nails of dark-skinned persons (up to 77% of black people over 20 years of age), moreover posing a diagnostic challenge since they must be differentiated from subungual melanomas, particularly if they are of recent onset, evolving in appearance, or in the context of a familiar history of melanoma or dysplastic nevi.³

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