

## What Is Your Diagnosis?

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A 33-year-old black woman presented with a 5-year history of fingernail changes of both hands.

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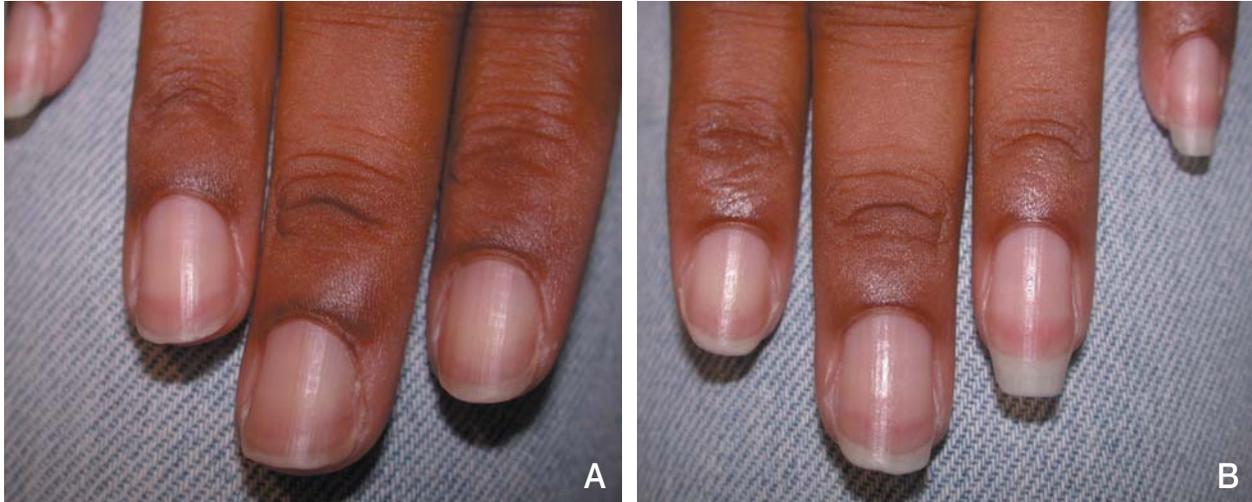
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The authors report no conflict of interest.

## The Diagnosis: Terry Nails



White to opaque discoloration of the nails with a small transverse distal pink zone adjacent to the free edge of the nail bed (A and B).

**T**erry nails, or white nails, is a nail abnormality originally noticed by Terry<sup>1</sup> in 1954 in 82 of 100 patients with hepatic cirrhosis. Terry described the “ground glass opacity” of the entire nail bed with the exception of “the distal zone of normal pink,” which is a 1- to 2-mm transverse band adjacent to the free edge of the nail bed (Figure). Terry highlighted that the nail whiteness is due to “some change in the nail bed” whereby the nail plate itself is unaffected and remains transparent. Terry also indicated an association between several systemic disorders and the white-nail abnormality, which existed simultaneously in his series of 100 patients. These disorders included chronic congestive heart failure, diabetes mellitus, pulmonary tuberculosis, rheumatoid arthritis, convalescent viral hepatitis, disseminated sclerosis, and certain carcinomas.<sup>1</sup>

Following this observation, Terry concluded that white nails may be a nonspecific physical sign of liver cirrhosis.<sup>1</sup> Additionally, he recognized white nails in a few healthy young children who also presented with spider nevi and palmar erythema, which led him to theorize that white nails may be a

mark of a malfunctioning endocrine system and/or irregular steroid metabolism.<sup>1</sup>

In 1955, Morey and Burke<sup>2</sup> reported distinctive changes in advanced hepatic cirrhosis, with a strong link between hypoalbuminemia and Terry nails. In 1984, Holzberg and Walker<sup>3</sup> identified Terry nails in 25.2% of their hospital inpatients and noted that Terry nails are most markedly associated with hepatic cirrhosis, chronic congestive heart failure, and diabetes mellitus. For instance, 60.5% of patients with Terry nails had either 1 or a combination of these 3 disorders. These authors proposed that Terry nails may be part of a normal aging process or a sign of systemic disease that ages the nails prematurely. They also noted a slight connection between Terry nails and several malignancies including systemic arterial hypertension, coronary artery disease, cerebrovascular disease, collagen vascular disease, chronic obstructive pulmonary disease, sickle cell disease, pneumonia, tuberculosis, chronic renal failure, dehydration, and degenerative disease.<sup>3</sup> Another report reiterated a stronger association of Terry nails with chronic renal disease.<sup>4</sup>

Terry nails usually appear as a proximal, bilaterally symmetrical, white opacity of the nail and a distal pink or brown, 1- to 2-mm onychodermal band. The proximal opacity in the nail bed is undisturbed by the pressure produced on the nail. This portion of the nail is regarded as abnormal; however, the distal pink or brown band is considered a healthy or normal portion of the nail. The histology of the distal pink band of Terry nail underlines telangiectasias in the dermis.<sup>3</sup>

Although the exact pathogenesis for Terry nails is unknown, some authors theorized that the localized swelling due to dermal edema of the nail bed exerts pressure on the underlying vasculature, which decreases the usual erythema or normal pink coloration of the nail bed.<sup>5</sup>

Other nail disorders with white discoloration that are often confused with Terry nails include Lindsay nails (half and half nails) and Muehrcke lines. Lindsay nails appear split where the proximal half (20%–60%) of the nail is opaque, and the distal half (40%–80%) is pink to red-brown.<sup>6</sup> These half and half nails may be found in approximately 10% to 40% of patients with chronic renal disease.<sup>7</sup> Muehrcke nails present with paired, narrow, transverse, white bands that run parallel to the lunula.<sup>8</sup> These lines indicate a vascular abnormality of the nail bed and are associated with severe hypoalbuminemia (<2.2 g/100 dL), nephrotic syndrome,<sup>8</sup> or the use of multiple chemotherapy agents.<sup>9</sup>

In summary, Terry nails represent an important nail abnormality for clinicians to identify to consider various associated systemic disorders (especially hepatic cirrhosis). For example, our presenting patient has underlying chronic renal failure as an associated systemic disorder.

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