Nail Pigmentation and Fatigue in a 39-Year-Old Woman

(See page 348 for Photo Quiz)

Figure 1. Photograph showing longitudinal black bands on the nails of 2 fingers (thumb and index) of the right hand

Diagnosis: HIV-1 infection and longitudinal melanonychia. This diagnosis was suggested by the findings of the physical examination (figure 1) and laboratory data in conjunction with the sexual history of the patient’s husband, who admitted on further questioning that he was sexually promiscuous with tourists and that he was participating in orgies involving intercourse with persons of both sexes. The patient had positive results of an HIV-1 ELISA and a Western blot assay. Her CD4 cell count was 116 cells/mm³, and her virus load was 185,000 copies/mL, as determined by RT-PCR (Amplicor; Roche). Subsequently, her husband also tested positive for HIV-1 infection.

Longitudinal melanonychia may occasionally occur in the absence of other disease, particularly in dark-skinned subjects [1, 2], but several pathologic associations have also been described. Common causes include the following: melanoma [1, 2]; benign nevi [2]; trauma that results in subungual hematoma [2]; hydroxyurea [2, 3]; adriamycin, cyclophosphamide, and polychemotherapy [1]; antimalarials [2]; and tetracyclines [2]. Less frequent causes include onychomycosis [2], nonmelanocytic tumors [2], endocrinopathy [1], onychotillomania [4], subungual keratosis of the nail bed [5], Laugier-Hunziker syndrome (melanonychia with macular pigmentation of the lips and buccal mucosa) [2], pregnancy [6], and systemic lupus erythematosus [7].

In HIV-1–infected patients, nail pigmentation is typically seen after the introduction of zidovudine therapy. This is a common and well-described occurrence, especially in dark-skinned individuals [8–13]. On the other hand, relatively few reports have been published that link nail color changes with HIV-1 infection in patients who are not receiving antiretroviral therapy [8, 11, 14–18]. Longitudinal melanonychia has been associated with diffuse mucocutaneous pigmentation [15]. Nail
color changes include bluish pigmentation [16–18], cyanotic discoloration [16], and longitudinal pigmentation [14, 15, 18] of fingernails and toenails. All of these changes have been noted in dark-skinned patients [16, 18], but cases of isolated nail pigmentation in fair-skinned HIV-1–infected patients that cannot be attributed to use of any drug have been extremely rare [8]. It seems that increased nail and mucocutaneous pigmentation are caused by increased pigment production by melanocytes, which is caused in part by overexpression of α-melanocyte-stimulating hormone [11, 15].

Our patient started receiving a HAART regimen that included zidovudine in addition to lamivudine and indinavir. She had favorable virologic and immunologic responses, with a decrease in the virus load to 146 copies/mL and an increase in the CD4 cell count to 239 cells/mm³ within 2 months after the initiation of therapy. There was no major change in nail pigmentation during this time.

In conclusion, although nail pigmentation itself looks harmless, seeking longitudinal melanonychia during physical examination (regardless of whether the patient has been exposed to zidovudine) might prove to be important, because nail pigmentation could be associated with progression of HIV-1 disease [11]. Although nail color changes in HIV-1–infected patients are usually attributed to receipt of zidovudine therapy, one needs to keep in mind that HIV-1 itself could be the cause of longitudinal melanonychia, not only in dark-skinned individuals but also in fair-skinned individuals.

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1058-4838/2003/3603-0022$15.00