

# Longitudinal Melanonychia in an African Patient with Acquired Immunodeficiency Syndrome (AIDS)

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A 28 year old refugee from Eritrea presented with fever, cough and significant weight loss during the previous 2 months. On admission he was tachypneic and cachectic. Physical examination revealed coarse rales over both lung fields. Two longitudinal brown-to-black bands, of which the patient was unaware, were seen on his left hand thumbnail extending to the tip of the nail without involvement of the nail folds [Figure 1]. Hyperpigmented bands, although less conspicuous, appeared also on other fingers of the left hand. AIDS-related *Pneumocystis jirovecii* pneumonia was diagnosed by serology, CD4+ count and bronchoalveolar lavage, respectively, and the patient was treated accordingly.

Longitudinal melanonychia (LM) is caused by activation or hyperplasia of the nail matrix melanocytes, a nail matrix nevus, or a nail matrix melanoma. The differential diagnosis is broad [1]:

- Physiologic causes, such as African race and pregnancy
- Systemic disorders, particularly human immunodeficiency virus (HIV) infection and Addison's disease
- Drugs, e.g., chemotherapeutic agents (hydroxyurea) [2]
- Dermatologic diseases such as psoriasis
- Local causes, such as trauma and manicures.

Awareness on the part of the clinician is paramount since longitudinal melanonychia of a single nail often requires biopsy to detect matrix nevus or melanoma. LM is frequently observed in patients infected with HIV, particularly in the late stage of AIDS. The mechanism of nail melanocyte activation is not fully known, but is attrib-

uted to over-expression of alpha-melanocyte-stimulating hormone ( $\alpha$ -MSH) and adrenocorticotrophic hormone activity [3,4], as well as to ultraviolet light [3].

A retrospective study of 267 HIV-positive patients and 273 HIV-negative volunteers was undertaken to seek an association between HIV, skin pigmentation, antiretroviral therapy (zidovudine and/or stavudine) and LM. The authors found that melanonychia was more likely to occur among participants with darker skin coloration (56.7% of African-Americans as compared to 4.5% of Caucasians). It was also found that 49.1% of HIV-positive patients had LM compared to only 21.8% of HIV-negative persons. Participants with HIV and melanonychia were more likely to belong to groups with the darkest skin coloration compared to the lightest (odds ratio 14.6). Zidovudine, but not stavudine treatment further increased the likelihood to develop melanonychia among HIV patients (odds ratio 2.6) [3]. This finding was in accordance with a previous study reporting that after zidovudine therapy the rate of LM can be as high as 40% [4].

Due to the high incidence of melanonychia among HIV patients, this dermatologic sign was suggested as a possible marker for HIV positivity in previously untested patients with a relevant history and other physical signs [3].

## BACK TO THE PATIENT

Biopsy of fingernails was not performed in our patient due to a combination of clinical and epidemiological factors: the high rate of melanonychia among Africans, as high as 77% in young adults [5], as well as involvement of multiple digits and newly diagnosed AIDS in this patient. The patient returned to his homeland to

**Figure 1.** Two longitudinal brown-to-black bands of longitudinal melanonychia on a thumbnail of a 28 year old African male patient with AIDS. Similar bands appear on other fingernails as well



receive antiretroviral therapy and was lost to follow-up.

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