

Onychomycosis in HIV-infected Patients

Sir,

Onychomycosis may be caused by dermatophytes, yeasts or molds. About 80% of the cases are caused by dermatophytes, primarily *Trichophyton rubrum*, which infect toenails more frequently than fingernails.

The majority of the yeast infections are caused by *Candida albicans*, and fingernails are far more commonly involved than toenails. Yeast infection constitutes about 17% of the cases, and molds constitute 3–5% of the cases, although some of the latter are secondary to dermatophyte infections or trauma (1). Onychomycosis is frequently seen in HIV patients, and several studies have reported up to 12% (2, 3). The increased susceptibility of HIV patients to ordinary superficial fungal infections, especially candidosis, may have increased their risk of infection with more unusual opportunistic species. For this reason we made a study of nail changes in HIV patients, with special reference to demonstration of the presence of molds which might contribute to therapy resistance.

We examined 22 HIV-positive patients with abnormal nails in order to identify pure or mixed infections with dermatophytes, molds or yeast.

MATERIAL AND METHODS

Twenty-two HIV-positive patients with nail changes, referred to the dermatological outpatient clinic because of skin diseases, were seen consecutively during the period 1/9 93 to 1/7 94 and examined for onychomycosis. The material comprised 21 men, mean age 44 years (31–57) and one African woman, 36 years old. All were HIV-positive with AIDS-related complex (ARC) or AIDS, but the CD4 cell count was not available.

Mycology

Material was obtained from the top and underside of the infected nail with a small curette after thorough cleaning with alcohol. No samples were taken from the skin. Microscopy was performed in a fluorescent microscope after addition of blankophor 10%. All specimens were cultured on 3 agar plates, one containing Sabouraud's dextrose agar with chloramphenicol (0, 005%) and 2 also containing cycloheximide 0.05%. The specimens were incubated at 24°C for up to 5 weeks. The agar plates were read daily. Typing was performed according to microscopical features.

RESULTS

Twenty-one patients had toenail changes and one had fingernail changes. Dermatophytes were demonstrated in 12 of the 22 HIV-infected patients (54.5%). *Candida albicans* infection was seen in one patient, *T. rubrum* in 8, *T. mentagrophytes* in one, *T. violaceum* in one, *T. tonsurans* in one, and in one patient both *T. rubrum* and *T. mentagrophytes* were found. *T. violaceum* was demonstrated in the patient from Africa, the only patient with fingernail involvement. Nine patients had negative cultures, so infection due to molds was not demonstrated. One patient suffered from psoriasis with nail changes, but culture was negative. No other patients had skin diseases with nail involvement.

The clinical type PWSO was demonstrated in 4 of the HIV-infected patients and *T. rubrum* cultured from these. Nail dystrophy was so advanced in 4 patients that specimens could

only be obtained from the surface of the nail plate; all of these grew *T. rubrum*.

In the last 4 patients with positive culture the nails were in varying degrees thickened, friable and discoloured.

In all the remaining cases samples were taken from the underside as well. In 6 of these, cultures were positive from both the surface of the nail plate and the underside, but the fungus identified was the same from both sides of the nail. In 3 cases culture was positive from the underside but negative from the surface of the nail plate.

DISCUSSION

Tinea pedis is the most common form of dermatophytosis in HIV-positive patients. In AIDS patients, however, onychomycosis becomes the predominant form, often with no evidence of dermatophytosis elsewhere on the skin. Onychomycosis commonly appears with a CD4 cell count of <450 cells/mm³. With disease progression there is no clear increase in occurrence of dermatophytosis, but the clinical picture becomes more severe and often more resistant to therapy (4–6).

PWSO, which represents 90% of the cases of onychomycosis in AIDS patients, is unusual in the general population (7–9). Just as in the non HIV-positive population, *T. rubrum* is the most common cause (10). In our material *T. rubrum* was demonstrated in 8 of 12 of the positive cultures, and in 4 of these the clinical manifestation was PWSO (33.3%). In 4 patients the infected nails were absolutely dystrophic, which made it impossible to decide if it had started as PWSO.

Non-dermatophytes were not isolated in this study. However, they account for only a few per cent of the cases of onychomycosis, and the number of patients in our study is small.

Pierard et al. (11) have demonstrated how histology and immunohistochemistry in combination with culture can reveal different fungi within the same nail section. For instance, thick fungal hyphae in the upper nail plate and thinner filaments in the deep part of the nail plate were identified by culture to be *T. rubrum* and *Aspergillus* species, respectively.

In the 6 cases where growth was found on the surface of the nail plate as well as on the underside, the cultures were identical. Thus, we found no signs of "mixed infections".

Our results correspond with previous studies, as dermatophytes, primarily *T. rubrum*, were found in all the positive cultures, except for one case of *Candida albicans*.

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L. Ravnborg, N. Baastrup and E. Svejgaard
Department of Dermatology and Venereology, Bispebjerg Hospital, Copenhagen, Denmark.

Giant Pendulous Fibroma Arising on the Areola

Sir,

We here describe a patient with a giant fibroma of the pendulous grape-like variety on the areola.

CASE REPORT

A 43-year-old woman consulted our department because of a tumor on her left areola. According to the patient, the tumor had appeared at this site about 8 years earlier. It had gradually enlarged and become pedunculated.

Physical examination showed a black-brown-colored, elastic soft, pedunculated tumor, 6 × 3 × 3 cm, on the patient's left areola. The tumor was composed of multiple nodules and therefore looked like grapes (Fig. 1). The tumor, including the stalk, was resected.

Histopathologically, the epidermis showed irregular acanthosis. Proliferation of mature collagen bundles and numerous dilated capillaries were observed in the dermis.



Fig. 1. A pedunculated grape-like mass, about 6 × 3 × 3 cm in size, on the left areola.

DISCUSSION

Pedunculated fibroma is a very common benign connective tissue tumor. Although any part of the skin may be affected, the most frequent sites of involvement are the eyelids, neck and axillae. Most lesions are some millimeters in diameter; however, they occasionally become very large.

The tumor in our case arose on the areola and clinically showed a large grape-shaped mass. There have been a few reports of fibroma on the nipple or areola (1), but these tumors were smaller than that of the case presented here. We believe that our case is rare as regards both location and size.

To our knowledge, most of the reported cases of giant fibroma have been limited to the genital lesions, i.e. the scrotum (2) and labium majus (3, 4).

The skin in the genital region and areola is more extensible than that in other sites, so the tumor tends to become larger, and its stalk is elongated owing to the weight of the tumor. In addition, the location of the tumor may lead to delayed presentation because of shyness on the part of the patient. We think that these anatomical and mental factors are the major cause of the unusual clinical appearance of our case.

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Hidetoshi Nakayama and Motoyuki Mihara
Department of Dermatology, Faculty of Medicine, Tottori University, 36-1 Nishi-machi, Yonago, Tottori, 683, Japan.