Sporotrichosis in patient with AIDS: report of a case and review

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Although sporotrichosis is not an AIDS-defining infection, reports of sporotrichosis in individuals infected with HIV are increasing. We report an unusual case of this co-infection in a man with progressive deep cutaneous ulcerations with numerous pleomorphic yeast cells of Sporothrix schenckii. In addition a review of the literature on this subject was carried out and commented upon.

**Sporotrichosis, Sporothrix schenckii, HIV, AIDS**

**Summary**

Although sporotrichosis is not an AIDS-defining infection, reports of sporotrichosis in individuals infected with HIV are increasing. We report an unusual case of this co-infection in a man with progressive deep cutaneous ulcerations with numerous pleomorphic yeast cells of *Sporothrix schenckii*. In addition a review of the literature on this subject was carried out and commented upon.

**Key words**

Sporotrichosis, *Sporothrix schenckii*, HIV, AIDS

**CASE REPORT**

A 29 year-old man with a history of alcoholism, intravenous drug use and HIV infection was admitted to the emergency room of the hospital in a very bad condition. He presented skin lesions since six months ago and fever, dysphagia and hoarseness since three months ago. Myriad of small and many large skin lesions over the patient's body were observed. Large scale crusted infiltrative lesions with irregular borders were distributed on his face, forehead and nose (Figure 1); many acneiform or furuncle-like lesions, someone ulcerated, were scattered over the thorax. Ulcerated lesions in the right upper limb, one of them associated with an ascendant chain of nodules, were observed. Two large phagedenic ulcers with delimited borders and some smaller ulcerations were distributed on the lower limbs. A very large ulcerated lesion with purulent basis extended from the perineal region to the scrotum (Figure 2). Oral candidosis and small ulcers were seen in the mouth.

Laboratory findings: hemoglobin 9 g/dl, hematocrit 27.2%; blood leukocytes count 8.6 x 10³ (24% lymphocytes, 13% band forms and 55% polymorphonuclear cells); ALT 44 U/L, AST 131 U/L; alkaline phosphatase 373 U/L; other biochemical examinations in normal values. His CD4 count was 228/mm³ with 10³ HIV RNA copies/ml. Chest X-ray revealed an interstitial infiltration...
and diffuse small alveolar consolidations in both lungs. Arterial gasometry did not reveal hypoxia. An X-ray of the left forearm showed a cystic lesion on distal ulnar extremity.

A biopsy of the skin lesion and an aspirate of an abscess were performed and an empiric treatment was initiated with amphotericin B, erythromycin, gentamicin, oxacillin and acyclovir.

Skin biopsied specimen stained by haematoxylin and eosin (H&E) showed suppurative granulomatous dermatitis with many eosinophils and multinucleated giant cells (Figure 3), but stained by Gomori-Grocott technique (GMS) revealed many small pleomorphic ovoid, cigar-shaped budding yeast, and multiple budding cells (Figure 4). Characteristic colonies of *Sporothrix schenckii* were obtained in cultures of the pus and fragments of the biopsied tissue.

After a very short period of improvement, patient's respiratory conditions worsened abruptly. Sputum examination revealed many Gram-negative bacilli and *Klebsiella oxytoca* was isolated in culture. The patient died ten days after his admission. No autopsy was permitted.

**DISCUSSION**

Sporotrichosis has been an uncommon opportunistic infection in AIDS patients. Twenty reported cases could be gathered in the literature [3-22] and a new one is herein related. The mycosis may be the presentation of AIDS [3-7], but more frequently it occurred in patients with already recognized HIV infection [8-22, present report]. It affected patients aged 20 to 71 years (mean 39 years) and more frequently males (18) than females (3).

With the exception of one patient with invasive sinusitis [16] and another one with pulmonary infection [12], the remaining 19 patients presented skin lesions at the presentation of the mycosis. Usually cutaneous lesions were multiple and widespread. Initially and later on, clinical manifestations as well as the involved organ at the time of the diagnosis and later on are shown in table 1.

Diagnosis of 16 out of 18 patients presenting cutaneous lesions was accomplished by the examination of specimens obtained by histology [3,4,9,15] isolation in culture [14] or both, histology and culture [5,7,8,10,11,18,20,22, present report] or pus aspirated from an abscess - microscopy [13] or culture [6]; the remaining two
patients [17,21] culture of aspirated joint fluid led to diagnosis of the mycosis. Surgical specimen and sputum were used for the diagnosis of the patients presenting, respectively, sinusitis [16] and pulmonary infection [12] at the presentation of the mycosis.

In cut sections or smeared pus S. schenckii was recognised by the peculiar cigar-shaped yeast form; however, in two patients [4,9] the fungus was present as large round elements reaching more than 8 µm in diameter, simulating Cryptococcus neoformans, agent of a more frequent opportunistic infection in AIDS patients.

Al-Tawfiq et al. [3] revised the treatment of sporotrichosis in AIDS patients pointing amphotericin B as the drug of choice for initial use and itraconazole as maintenance therapy. This recommendation is in accordance with practice guidelines for the management of patients with sporotrichosis and AIDS for the Mycoses Study Group, Infectious Diseases Society of America [23].

Finally, our patient has an intermediate-stage HIV infection, based on the CD4 count (228/mm$^3$) and viral copies ($10^4$/ml). We may presume that the disseminated sporotrichosis was facilitated by his alcohol abuse [24].

### References


