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Clinical Record

Nasal histoplasmosis in the acquired immunodeficiency syndrome

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Abstract

Disseminated histoplasmosis is a disease with a high case-fatality rate, especially in patients with the acquired immunodeficiency syndrome (AIDS). The disease can occur in various sites, such as the lungs, eyes, oral cavity, larynx, nervous system, gastrointestinal tract and, more rarely, the nasal sinus region. It is a cosmopolitan mycosis with a high prevalence in Brazil. Nasal manifestation of the disease is rare, with only three cases reported in the literature, but it is part of the differential diagnosis for other granulomatous diseases, such as Wegener's granulomatosis, tegumentary leishmaniasis and nasal lymphoma. The authors of this study present a literature review and report a case of nasal histoplasmosis in a patient with AIDS. No record of such an aggressive presentation has been reported previously in the literature.

Key words: Histoplasmosis; AIDS-Related Opportunistic Infections; Nose

Introduction

Systemic *Histoplasma capsulatum* infection is infrequent and occurs predominantly in immunocompromised patients. Nasosinusal manifestation of the infection is rare, with only three cases described in the literature consulted. The authors report a case of nasal histoplasmosis in a patient with acquired immunodeficiency syndrome (AIDS), with extensive nasal destruction.

Case report

The patient was female, 32 years old and resident in Rio de Janeiro, Brazil. In December 2002, the patient presented with a cough, loss of energy and weight loss, with a diagnosis of pulmonary tuberculosis. After two months of treatment, she reported nasal pruritis, which worsened, with pain, ulceration, and rhinorrhoea.

In March 2003, the patient underwent a biopsy of the lesion, which was already destroying the nasal architecture. The histopathological report showed a chronic granulomatous inflammatory process with necrotic foci. The diagnosis of AIDS was made at the same time, with a CD4+ T lymphocyte count of 69 cells/mm^3.

In May 2003, the patient presented intense local pain, in addition to fever, wasting and asthenia. Examination showed a drop in the nasal pyramid, destruction of the cartilaginous septum, columella and left nasal wing, bilateral orificial stenosis, and ulceration, with a granulomatous bed and serosanguinolent crust surrounding the entire left nasal fossa (Figure 1). Examination of the oral cavity showed diffuse hyperaemia, whitish plaques suggestive of candidiasis, and four ulcerations with hyperaemic edges on the hard palate.

Chest X-ray was normal. In May 2003, computerized tomography of the paranasal cavities showed a piriform opening of the nasal fossa, with various ulcerated areas on the nasal wing, absence of septal cartilage, no signs of bony destruction, obliterated osteomeatal units, partial obliteration of the ethmoid cavities, mucous thickening of the maxillary cavities and bilateral opaqueness of the sphenoid cavities (Figure 2). A new biopsy of the lesion was performed, with isolation of *Histoplasma capsulatum*.

Intravenous treatment was initiated with amphotericin B 1 mg/kg/day. The patient responded, with improvement of both the lesions and the overall condition, and was discharged from hospital receiving maintenance therapy with amphotericin B twice a week, awaiting nasal reconstruction surgery (Figure 3).

Discussion

Histoplasmosis is caused by the dimorphic fungus *Histoplasma capsulatum var. duboisii* or *var. capsulatum*, the latter of which displays worldwide distribution.[1] The disease is a cosmopolitan mycosis, highly prevalent in Brazil. The fungus is found in bat and bird droppings. Transmission is inhalatory, and inter-human spread has been suggested. The infection manifests primarily in the lungs, causing acute pneumonitis, in most cases asymptomatic and with spontaneous regression. However, in some situations, such as immune depression, dissemination occurs and the disease can locate in other sites, such as the eyes, oral cavity, larynx, nervous system, gastrointestinal tract and, more rarely, the nasosinusal region, characterizing disseminated histoplasmosis (DH).

Nasosinusal lesions were reported in only two articles consulted. In 1991, Machado *et al.*[2] described six cases of

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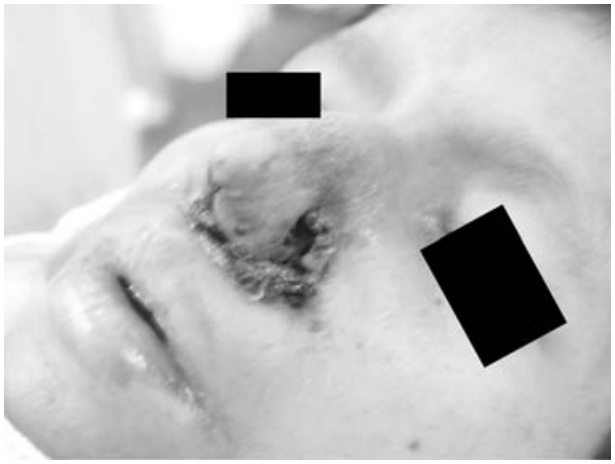

FIG. 1

The patient's nose before treatment, showing drop in nasal pyramid and destruction of cartilaginous septum, columella and left nasal wing.

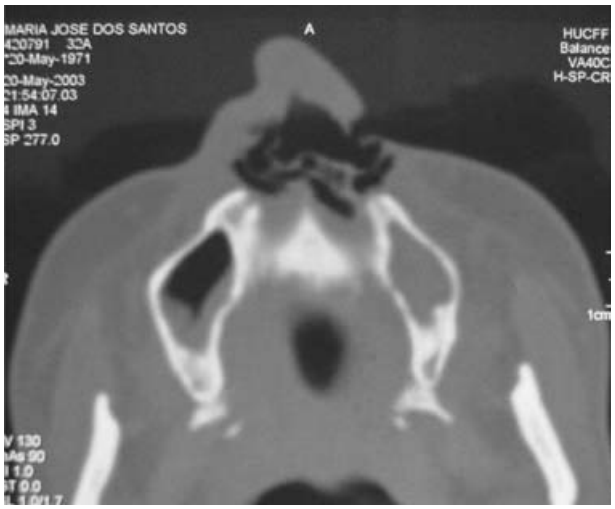

FIG. 2

Computerized tomography of the facial sinuses; note the destruction of septal cartilage and left nasal wing.

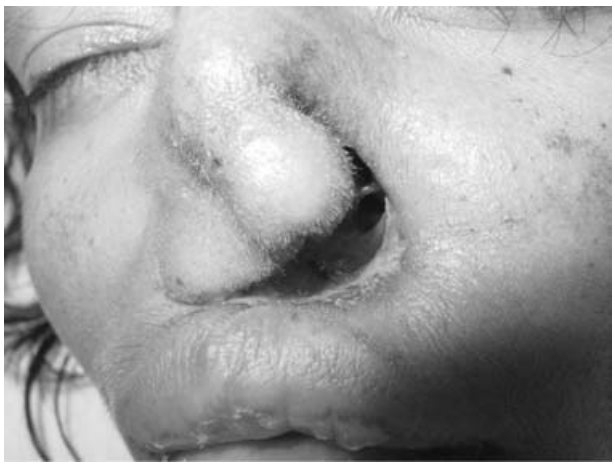

FIG. 3

The patient's nose after treatment.

mucocutaneous involvement by histoplasmosis in AIDS patients, only two of whom presented nasal lesions. The two cases presented only nasal ulcers, without destruction of the nasal architecture. In 1997, Butt and Carreon[3] reported a case of nasosinusal involvement by histoplasmosis as the direct extension of a palatal ulcer, also in a patient with AIDS. In the latter case, the authors did not describe any nasal lesion. None of the authors researched found other cases of nasal sinus histoplasmosis in the literature.

The definitive diagnosis of mucocutaneous lesions in histoplasmosis can be difficult. The distinction between colonization and tissue invasion is only possible through histopathological examination. The slices should be stained with periodic acid Schiff (PAS) or Grocott. Culture of the collected material should be done in glucose agar medium, Sabouraud or glucose–potato agar. Detection of *H. capsulatum* antigens in the blood or urine is a sensitive and specific method for diagnosis of DH. Serological tests such as complement-fixation reaction and the skin test lack established diagnostic value.[4,5]

Differential diagnosis should include other nasal granulomatous diseases. Among the infectious diseases, the following should be ruled out: leprosy, tuberculosis, paracoccidioidomycosis and, especially, tegumentary leishmaniasis (which can develop with a very similar pattern to that of the patient reported here).[6] Because of the extensive nasal destruction seen, diseases of the fatal midline granulomatoses should be ruled out, including: Wegener's granulomatosis, lymphomatoid granulomatosis, idiopathic midline granuloma and non-Hodgkin lymphoma.[6–9]

Amphotericin B is the treatment drug of choice, at 0.5–1.0 mg/kg/day up to a total cumulative dose of 1–2 g. Itraconazole can be used in less severe cases. Relapses are frequent and require suppressive treatment for an indeterminate period after remission of the lesions. Regimens with weekly or twice-weekly amphotericin B or the use of itraconazole at 200–400 mg/day have proven effective.[1]

Despite advances in diagnosis and treatment, mortality of patients with DH and AIDS is high, estimated at 50 per cent.[7] This fact may be explained by the difficulty in diagnosis, leading to delay in initiating treatment.

- **Nasal histoplasmosis is a potentially severe fungal infection caused in this case report by *Histoplasma capsulatum***
- **The patient was immunocompromised as a result of HIV/AIDS. The infection was characterized by severe destruction of external nasal tissues**
- **Treatment was with a combination of systemic antifungal chemotherapy (amphotericin B) followed by reconstructive facial surgery**

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