Disseminated Histoplasmosis Due to *Histoplasma capsulatum var. duboisii* in a Non-HIV Patient in Togo: A Case Report

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Abstract: *Background*: Histoplasmosis is a fungal infection due to *Histoplasma capsulatum*. We report a case of disseminated African histoplasmosis in an HIV uninfected patient in Togo.

Case Report: A 35-year-old woman was admitted in dermatology for disseminated nodular lesions and left shoulder pain for 4 months. On examination, there were firm or softened nodular lesions with torpid ulceration and translucent molluscoid-like papules disseminated on the face, trunk, and limbs. There was also a painful swelling of the left shoulder, with an impotent upper limb. Histology showed an acanthotic epidermis discretely keratotic. In the dermis, there were granulomas with giant cells, histiocytes and polymorphonuclear cells around largely altered yeasts. The presence of *Histoplasma capsulatum var. duboisii* was confirmed by direct microscopic examination. Chest X-ray showed a left minimal abundance pleurisy. Shoulder x-ray showed heterogeneous lysis of the left humeral head and a large osteopenia of bones associated with left scapulo-humeral dislocation. The medical treatment was based on itraconazole (400mg/day) for 4 months relieved by fluconazole (450 mg/day) with good evolution after 4 months.

Conclusion: A disseminated form of African histoplasmosis can be observed in non-HIV infected patients. The prognosis depends on the precocity of the diagnosis and the treatment.

Keywords: African Histoplasmosis, Togo.

INTRODUCTION

African histoplasmosis or histoplasmosis due to *Histoplasma capsulatum var. duboisii* is a deep mycosis due to a dimorphic fungus, endemic throughout intertropical Africa [1]. It has a peculiar tropism for skin, causing papulo-lenticular nodular lesions or more rarely ulcero-crustous or even vesiculopustular lesions [2]. Although most of the disseminated forms of this mycosis have been reported in HIV-infected patients [2-5], few cases are reported in non-infected patients [6-8]. We report a case of disseminated African histoplasmosis in a 35-year-old woman non-infected with HIV.

CASE REPORT

A 35-year-old patient from a rural area was admitted in dermatology for disseminated nodular lesions and left shoulder pain with functional impotence of the limb without trauma for 4 months. The interrogation revealed a notion of poultry farming seven years ago. On examination, the patient was in good general condition, apyrexial and without respiratory signs. Firm and painless nodular lesions were noted initially, becoming painful secondary and evolving towards softening and torpid ulceration (Figure **1**). These lesions were associated with translucent molluscoid-like papules, and cervical and inguinal lymph nodes. There was also a painful swelling of the left shoulder, rendering the upper limb impotent. Histology of a nodule biopsy showed an acanthotic epidermis discretely keratotic. In the dermis, there were granulomas with giant cells, histiocytes and polynuclear cells around largely altered yeasts. The presence of *Histoplasma capsulatum var. duboisii* was confirmed by

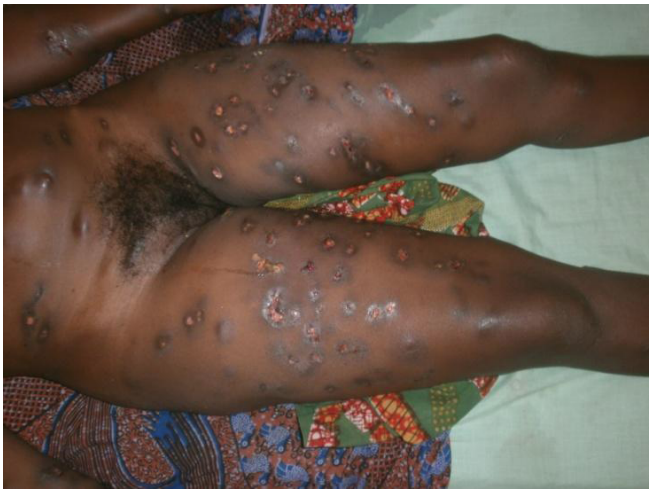

Figure 1: Nodular lesions and torpid ulcerations on the abdomen and lower limb.

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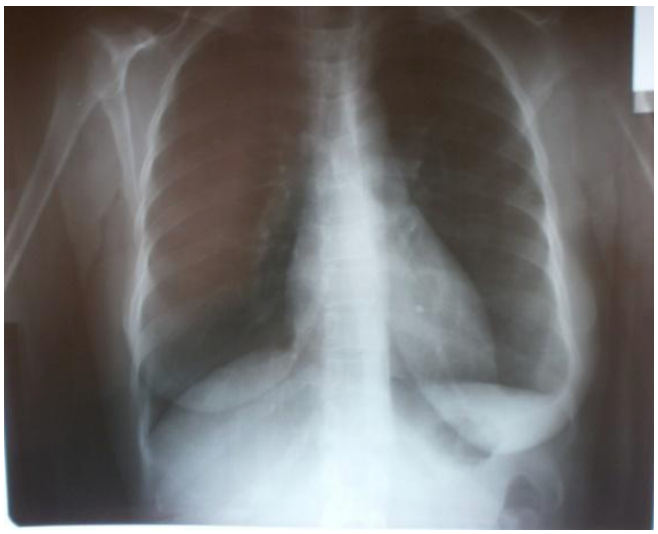

Figure 2: Pleurisy of minimal abundance.

direct microscopic examination. The culture was not performed. Chest x-ray showed a left minimal abundance pleurisy (Figure **2**). Shoulder x-ray showed heterogeneous lysis of the left humeral head and a large osteopenia of bones associated with left scapulo-humeral dislocation (Figure **3**). HIV serology was negative. Biological abnormalities were leucocytosis (12300 white blood cells/mm³) and acceleration of sedimentation rate. Hepatic and renal functions were normal. The medical treatment was based on itraconazole (400mg/day) for 4 months relieved by fluconazole (450mg/day). A scarf was used to treat shoulder dislocation. Transaminases were dosed at the beginning of treatment and monthly during treatment. Evolution was favorable with regression of size and number of lesions, shoulder bone consolidation and drying of pleurisy at 4 months. The patient was lost to follow-up after 9 months.

DISCUSSION

African histoplasmosis is a rare deep mycosis in Togo; indeed the current case we report is the second after that reported by Pitché *et al.* in 1995 [8]. The particularities of our case are: i) first the dissemination of lesions (cutaneous, bone, joint, and chest) in non-HIV-infected patient without any other form of immunosuppression; ii) secondly the painfulness of nodules which is unusual in cold abscesses. The presence of pleurisy in our case report shows that, although unusual, it must be systematically search in disseminated forms of histoplasmosis, even in an immunocompetent patient. Its main differential diagnosis is pleuropulmonary tuberculosis which must be excluded in our context of high HIV seroprevalence. The case reported in 1995 by Pitché *et al.* [8] was also a disseminated form in an immunocompetent patient. Disseminated African histoplasmosis are less common in non-HIV-infected patients [9], but are more common in HIV-infected subjects where they are accompanied by a marked alteration of general condition and fever [2]. In these disseminated forms, hepatosplenic presentations are generally fatal and lung involvement is rare, unlike the capsulatum variety [10]. Indeed, the most frequent and typical localizations of this mycosis are skin (31%), bones (24%) and lymph nodes (6%)

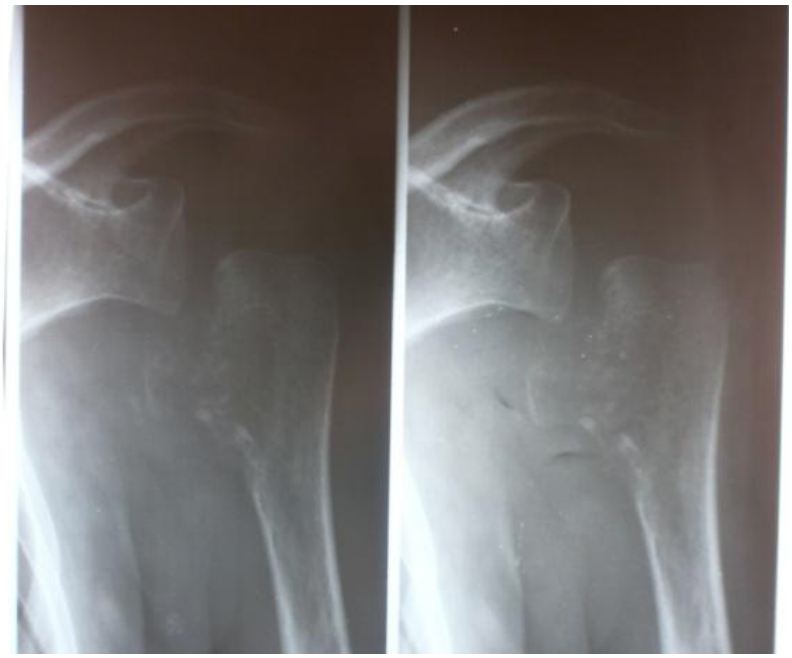

Figure 3: Humeral lysis and scapulohumeral dislocation.

[11]. Thus, the search of African histoplasmosis must be part of a medical check-up of a patient with chronic cutaneous ulceration in tropical areas. The culture of nodule pus or histology of the lesion showing the presence of *Histoplasma capsulatum var. duboisii* should confirm the diagnosis. In our patient, the diagnosis was based on histological and mycological arguments. The culture was not done for technical reasons. Classically, direct microscopic examination with Gomori-Grocott staining or eosin-saffron hematein shows an intracellular yeast, 7 to 15 µm in diameter, thick-walled and highly refractive, sometimes producing an aspect of pseudocapsule in "watch glass". Culture on Sabouraud's medium is to be kept at least six weeks, as its development is slow, from 10 to 30 days [11]. Therapeutically, itraconazole was substituted with fluconazole because of its high cost. Fluconazole was used effectively in the case reported by Mandengue Ebenye *et al.* [2] (1600mg/day for 2 months). The treatment of *Histoplasma capsulatum var. duboisii* is modeled on that of the capsulatum variety and relies on amphotericin B or itraconazole by the oral route, or the use of azoles derivates [11-13]. These antifungals are unavailable or expensive, or even inaccessible to most HIV-infected patients in sub-Saharan Africa. Our case report, therefore, suggests that fluconazole is a good therapeutic alternative to this mycosis in our context, because of its availability and its very affordable cost even for patients with limited incomes.

CONCLUSION

African histoplasmosis is a rare disease, often diagnosed late. The possibility of this infection should be kept in mind and to carry out mycological of nodule pus aspiration, culture or histology in case of all chronic skin ulcerations or lymph nodes. The treatment uses azoles derivates which are very effective and well tolerated.

LIMITATIONS

The mycological culture to identify the fungus was not done because of technical reasons.

DECLARATIONS

Ethics Approval and Consent to Participate

This case report was approved by the Department of Dermatology of CHU of Lomé, University of Lomé. We obtained the approval from the patient. The patient gave her consent.

Consent for Publication

The Department of Dermatology of CHU of Lomé, University of Lomé authorized the publication of this manuscript.

Availability of Data and Materials

The data sets supporting the conclusions of this article are included within the manuscript and its supporting material.

COMPETING INTEREST

The authors declare that they have no competing interests.

AUTHORS' CONTRIBUTION

BS, SA, JT, GM, MA, KK, PP have written, revised and finalized the manuscript. All the authors read and approved the final manuscript to be submitted for publication.

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AUTHOR'S INFORMATION

SA, JT, GM are medical doctors, dermatologists; **BS, MA, KK,** and **PP** are medical doctors and professors in dermatology.

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