Case Report

A rare cause of nodular skin lesions with fever in an immunocompetent individual

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Abstract

Histoplasmosis is a fungal disease caused by the dimorphic fungus *Histoplasma capsulatum*. It is endemic to many parts of the world but is rarely seen in India. The fungus usually affects the immunocompromised patients and is rarely reported in immunocompetent hosts. We hereby report a case of the nodular skin lesion with fever lesion that finally turned out to have cutaneous histoplasmosis, from a non-endemic region of northern India and that too in an immunocompetent.

Keywords: Fever, immunocompetent, nodular skin lesion, skin biopsy

Introduction

Histoplasmosis is a worldwide systemic mycosis caused by *Histoplasma capsulatum* and *Histoplasma duboisii,* which occurs endemically in many parts of the world, but is rare in India.[1] The primary mode of infection has been postulated as inhalation of conidia (spores) present in soil or suspended in the atmosphere. After inhalation, these fungal elements convert into yeast forms, which may disseminate systemically.[2]

Case Report

A 62-year-old male who is a native of northern India, skilled laborer (carpenter) by profession, was admitted to our hospital with complaints of high-grade fever (103°F) of 1-month duration. Twenty days after the onset of fever, he developed nodular skin lesions all over the body, which first involved the face then chest and abdomen and then the extremities, sparing the palm and the soles. Along with these predominant nodular lesions, he also had multiple non-blanchable, non-indurated, and hyperpigmented papules [Figure 1]. The patient had a history of 12 kg weight loss over the past 4 months. His general physical examination showed multiple hyperpigmented papular and nodular lesions covering the face, chest, abdomen, and extremities [Figure 2]. Rest of the general physical and systemic examination was normal.

Blood counts were within normal limits. Serology for viral hepatitis, malaria, rK-39, and HIV was negative. Mantoux test and antinuclear antibody were also negative. No abnormality was detected on imaging (chest X-ray/contrast-enhanced computed tomography of thorax and abdomen). Skin biopsy was done, which showed ulcerated epithelium covered with exudates. The dermis shows dense inflammatory infiltrate with many foam cells and many intracellular yeast forms of Histoplasma were noted [Figures 3 and 4]. No abnormality was detected on bone marrow aspiration and biopsy. To rule out any other causes for immunocompromised state, his immunological profile was done, CD4 count was 722 cells/mm^3 (normal 500–1200 cells/mm^3) and the levels of IgA (86 mg/dL), IgM (211 mg/dL), and IgG (861 mg/dL) were all normal.

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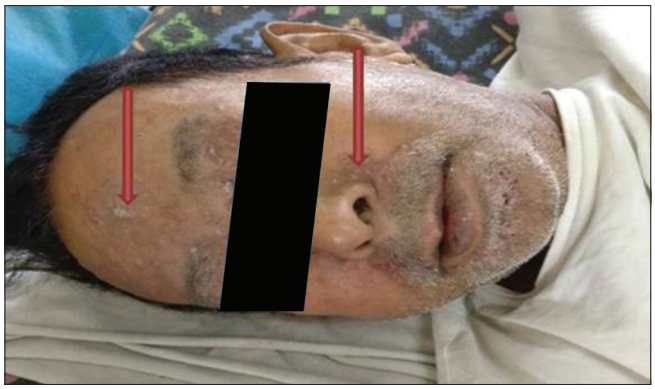

Figure 1: Showing multiple hyperpigmented papules over the face

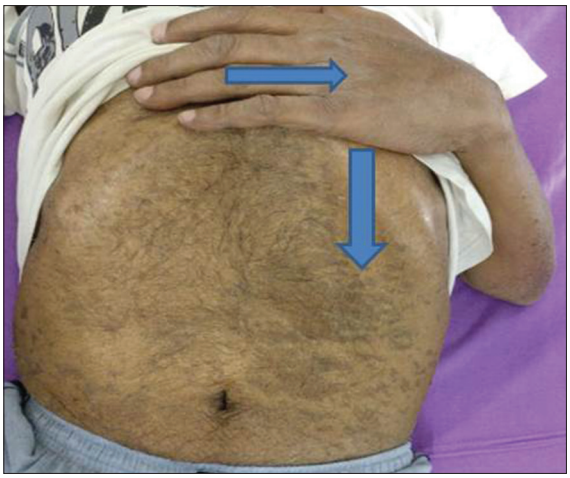

Figure 2: Multiple hyperpigmented patches on the abdomen

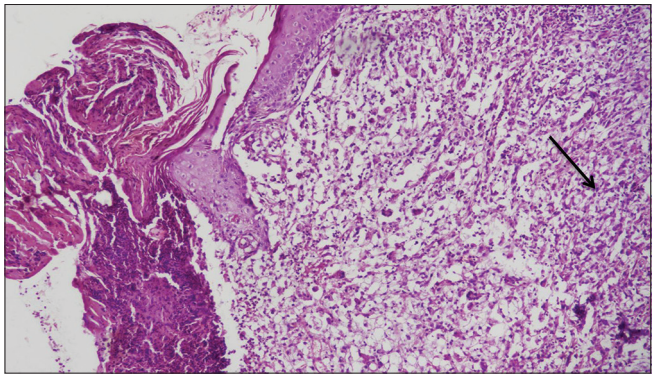

Figure 3: Low power photomicrograph of skin biopsy showing ulcerated epithelium covered with exudates. The dermis shows dense inflammatory infiltrate with many foam cells [H and E, ×100]

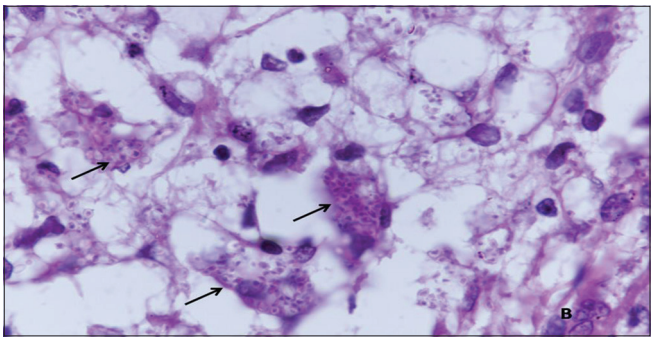

Figure 4: High power under oil emersion lens shows many intracellular spores of Histoplasma (arrows) [H and E, ×1000]

Serum antigen for Histoplasma was positive. Isolation of the fungus was achieved on special media (Sabouraud agar) and growth of *H. capsulatum* was detected after 4 weeks. The patient was started on liposomal amphotericin-B at a dose of 3 mg/kg/day, intravenous for 4 weeks, and then oral itraconazole at a dose of 200 mg twice a day orally, which was continued for 6 months. There was a marked improvement in his symptoms without any adverse effects of amphotericin-B and he was discharged on oral itraconazole after 5 weeks of hospital stay.

Discussion

H. capsulatum is found in the North and Central America mainly in Mississippi and Ohio River valleys.[1] *H. duboisii* is prevalent in Africa.[3] The common presentation can be with fever, abdomen pain, weight loss, mucocutaneous lesions, such as oral ulcers, erythematous, or vegetative nodules, growth resembling warts, hepatosplenomegaly, lymphadenopathy, cytopenias, such as anemia, and/or thrombocytopenia.[4] The occurrence of disseminated histoplasmosis is most commonly seen even in immunosuppressed individuals, rarely seen in immunocompetent individuals.[5]

Isolation of *H. capsulatum* from clinical specimens remains the gold standard for the diagnosis of histoplasmosis with a sensitivity of 74%.[6] Treatment of cutaneous histoplasmosis is the administration of liposomal amphotericin-B (3–5 mg/kg/day) for 2 weeks followed by maintenance therapy with oral itraconazole 200 mg twice a day for 6 months with regular monitoring of Histoplasma antigen level in serum or urine.[6]

Conclusion

The notable feature of this case was the variable presentation in an immunocompetent individual from a non-endemic area, highlighting the possibility of repeated misdiagnosis and inadequate treatment if there is no high index of suspicion. Early diagnosis and treatment of the disease can decrease further complications, morbidity, and mortality and turn out as a favorable outcome.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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