

Isolated Histoplasmosis of Tongue: A Case Report with Review of the Literature

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Abstract

Histoplasmosis is a systemic fungal disease. Oral histoplasmosis usually occurs in association with the chronic disseminated form of the disease and isolated oral presentation is rare. A case of isolated histoplasmosis involving the tongue in a HIV-negative patient is being reported.

INTRODUCTION

The clinical picture of histoplasmosis ranges from asymptomatic infection to life-threatening illness depending upon the intensity of the exposure, immune status of the individual, and the lung architecture of the host. Progressive disseminated histoplasmosis is typically seen in immunocompromised individuals. Common risk factors include acquired immune deficiency syndrome, extremes of age, and anti-TNF- α agents.¹ The muco-cutaneous lesions are rare and should always be considered a manifestation of disseminated disease.² A case of isolated tongue histoplasmosis in a HIV negative patient is being presented.

CASE REPORT

A 40 years old male patient presented with ulcer on the tongue of three months duration. The ulcer was slowly increasing in size and was associated with pain, odynophagia and some difficulty in speech. There was no history of travel to farm or caves. There was no history of oral trauma. He was non-alcoholic, non-smoker, non-diabetic. Past history was negative for tuberculosis.

The general physical examination was normal. Examination of oral cavity revealed poor oro-dental hygiene. A large ulcer of size 1.2 x 2.6 cm. was seen on the base of the tongue. Another small ulcer of size 0.7 x 0.7 cm was also noticed near the tip on the dorsal surface on the left side of midline of the tongue. The margins of the ulcer were raised and edematous. The floor of the ulcer was covered with thick secretions. On palpation, the ulcer was tender and indurated. (Fig 1)

Figure 1

Figure 1: Showing lesions on the base of the tongue and near the tip on the dorsal surface on the left side of midline of the tongue.



The patient was investigated. Hematological examination was normal. X-ray chest PA view and ultrasound whole abdomen were normal. HIV test was negative. A biopsy was taken from one of the ulcers which revealed the evidence of histoplasmosis. The patient was started on oral Itraconazole 200 mg thrice a day for three days followed by twice daily for 12 months after obtaining baseline SGOT and SGPT levels. The patient was advised to follow up regularly.

DISCUSSION

Histoplasmosis was first described by Darling (1905) while working in the Canal Zone in Panama. He described the disseminated form of the disease in a fatal case from Martinique.³

Histoplasmosis has been reported worldwide but it is more prevalent in certain parts of North and Central America. The

Ohio and Mississippi river valleys are known to be endemic for histoplasmosis since 1945. A moderate climate, humidity and soil characteristics may be responsible for endemicity. Bird and bat droppings/excrement enhances the growth of the organism in soil by accelerating sporulation.^{4,7}

There are two varieties of *H. capsulatum* which are pathogenic to humans: *H. capsulatum* variety *capsulatum* and *H. capsulatum* variety *duboisii*. A third variety named *H. capsulatum* variety *farcinosum* is an equine pathogen.⁴ Soil containing large amount of bird or bat guano, especially which is found under roosts or next to chicken coops, supports growth of the mold.⁵ Once the soil is contaminated it yields *H. capsulatum* for many years even after birds no longer roost in the area. Caves can be highly contaminated by *H. capsulatum* that thrives on the bat guano.⁶

H. Capsulatum exposure is very common for persons living in areas of endemicity, but symptomatic infection is uncommon.⁴ The clinical manifestations occur in a small number (less than 1%) and vast majority of infected persons have either no symptoms or a very mild illness. Acute pulmonary histoplasmosis is a self limiting disease. Patient may have fever, malaise, headache, weakness and dry cough.⁸ It may be accompanied by rheumatologic and/or dermatologic manifestations in about 5% of patients.⁹ In patients with decreased cell mediated immunity, the pulmonary infection will frequently progress to involve multiple lobes and acute respiratory distress can occur.¹⁰ Immunocompromised patients and cases with decreased cell mediated immunity include patients with AIDS, transplant recipients, those with hematologic malignancies and those on corticosteroids.¹¹⁻¹³ Patients with CD4 counts of less than 150 cells/ μ l are at increased risk.¹⁴⁻¹⁶

Mucous membrane lesions are seen in disseminated histoplasmosis. The tongue, gingival and buccal mucosa, lips, pharynx and larynx can be involved. Superficial ulcerations, deep ulcerations with heaped-up borders, nodular masses and verrucous lesions can occur. Although localized oral lesions in patients with no other symptoms of disseminated infection have been described this is very uncommon and muco-cutaneous lesions should always be considered a manifestation of disseminated disease. Goodwin et al stated that the most characteristic lesion in chronic disseminated histoplasmosis is an oro-pharyngeal ulcer and it occurs in about 70% of the cases¹⁰. Antonello et al suggested that oral histoplasmosis is the first sign of disseminated histoplasmosis¹⁷.

The oral ulcers have a rolled up edges suggesting malignancy as was seen in our case also. The clinical manifestations in the cases of histoplasmosis known from India appears to be predominant occurrence of muco-cutaneous lesions in the oral cavity with liver spleen and lungs being involved only in 35% of the cases.¹⁸⁻²¹

Fungal culture remains the gold standard diagnostic test for *H. capsulatum*. It can be grown on Sabouraud dextrose agar incubated at 25 degree Celsius. After several weeks may be up to six weeks, growth of a white to light tan mold occurs. Two types of conidia are produced on the hyphae: macroconidia and the microconidia.²² Fungal stains of cytopathology or biopsy materials showing structures resembling histoplasma yeast are helpful in the diagnosis. On tissues biopsy distinctive 2-4 micro meter oval, narrow based budding yeasts are seen and a tentative diagnosis can be made.^{23,24} Tissue should be stained in methenamine silver or periodic acid-Schiff stains to best visualize *H. capsulatum*. Yeasts are typically found within the macrophages but can also be seen free in tissues.

The proven antifungal agents for the treatment of histoplasmosis include amphotericin B²⁵, liposomal amphotericin B²⁶, amphotericin B liquid complex²⁷ and itraconazole^{28,29}. Amphotericin B formulations are used for patients who have severe pulmonary or disseminated forms of histoplasmosis. Presently, except for children, for whom a one month course of amphotericin B deoxycholate is usually curative, it is rare to give amphotericin B for the entire course of therapy and it is given initially until the patient has shown a favorable response and can take an oral antifungal agents: then, itraconazole is given for the remainder of the treatment course.^{30,31} For mild to moderate form of progressive disseminated histoplasmosis itraconazole (200 mg 3 times daily for three days and then twice daily, as guided by determination of the blood concentration levels of itraconazole) for at least 12 months is recommended²⁸.

The azoles exert antifungal activity by inhibiting fungal cytochrome P450 3A 4- dependent enzyme lanosterol 14- β -demethylase. Itraconazole given orally is preferred for patients who have mild to moderate histoplasmosis and further its uses as a step down therapy after an initial response with amphotericin B.²⁹ Fluconazole is less effective than itraconazole in treatment of histoplasmosis. Clinical data on the new azoles, voriconazole and posaconazole, for the treatment of histoplasmosis are limited; though both agents have activity in vitro against *H. capsulatum*.^{30,32}

Both posaconazole³³ and voriconazole^{34,35} have been used successfully in a smaller number of patients with a variety of different forms of histoplasmosis. The azoles may be hepatotoxic and hepatic enzymes levels should be measured before therapy is started and at least on 1, 2 and 4 weeks and every 3 months during therapy.

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