

# Granulomas Are a Pathological Sign of Histoplasmosis, but They Can Also Be Found In Sarcoidosis

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## Description

Histoplasmosis capsulatum infection can cause unusual symptoms like chronic cavitary pulmonary disease and laryngeal involvement, especially in healthy people. In patients who already had lung disease, fibro-cavitary lesions have been reported as a radiologic sign of chronic histoplasmosis. However, extensive basal predominant cavitary lesions that resemble cystic bronchiectasis have only been reported in a few cases. Disseminated histoplasmosis, which affects one in every two people infected with the parasite and typically affects immune compromised individuals, is uncommon. Granulomas are a pathological sign of histoplasmosis, but they can also be found in sarcoidosis and other diseases. Disseminated histoplasmosis may be diagnosed and treated later due to similarities between these two conditions. Disseminated histoplasmosis (DH) frequently resembles other diseases, resulting in incorrect diagnoses and treatment delays. Following treatment with immune suppressants for an initial diagnosis of inflammatory bowel disease (IBD), our patient developed DH. She was given liposomal amphotericin B after it was determined that she had DH. After a prolonged stay in the hospital, she eventually recovered. IBD and intra-abdominal histoplasmosis share numerous similarities. When undiagnosed histoplasmosis is treated with immune suppressants, dissemination can occur, which could have devastating effects. Although acute disseminated histoplasmosis (ADH) is a disease that defines AIDS and has been reported in Cameroon, little information exists regarding its prevalence. We used the Histoplasma urine antigen detection enzyme immunoassay (EIA) and histoplasmin skin test in a descriptive cross-sectional study from June to August 2019 to screen adults with HIV for histoplasmosis, regardless of CD4 T-cell counts.

## Histoplasma Antigenuria

Using an OD cutoff of 0.045, 36 (26%) of the 138 participants who were screened had antigen in their urine that could be detected. Six percent of the cases had skin lesions. One patient out of 39 was found to be positive for the histoplasmin skin test. A positive history of chest infections was associated with histoplasma antigenuria (Odds ratio:3.632, confidence interval

of 95 percent:1.635–8.071,  $p= 0.001$ ). Due to the fact that 30 titres, or 21.7%, were within the current cutoff range of 0.045 and 0.25, Cameroon's cutoff may need to be adjusted for disease confirmation using alternative, highly sensitive diagnostic methods like PCR and bone marrow examination. HIV-infected patients attending the Buea Regional Hospital's outpatient clinics appear to have an increased risk of contracting H. capsulatum. With regard to H. capsulatum infection, HIV patients need to be made more aware of their condition and treated more effectively. Typically, constitutional and pulmonary symptoms characterize histoplasmosis. Pneumonia and vague constitutional symptoms are clinical manifestations. It is unusual for it to appear as a mass in the neck. The case of a 13-year-old girl admitted due to a growing neck mass is presented in this report. Histoplasma was not found in the blood or urine, but the diagnosis of Histoplasma was established by complement fixation, a positive chest CT scan, histological analysis, and a history of recent travel. This report aims to highlight diagnostic tests that can be utilized to stop a case like this from going undiagnosed. If not diagnosed promptly, adrenal insufficiency (AI) can result in fatal outcomes. An unusual case of AI caused by disseminated histoplasmosis (DH) and the significance of being aware of the connection between infections and AI are discussed here.

One of the most prevalent endemic mycoses affecting immune compromised individuals in Latin America and the United States is histoplasmosis. Due to its similarity to stroke, vasculitis, and meningitis of other etiologies, involvement of the central nervous system is associated with higher mortality rates and a worse prognosis. Due to the subtle clinical presentation and low sensitivity of the cerebrospinal fluid culture, the diagnosis is difficult. The case presented here is that of a middle-aged HIV-positive man who presented with intermittent headaches that were made worse by an oculomotor nerve palsy, which raised concerns about an acute stroke. His neurological impairments subsided once treatment was started, and a central nervous system histoplasmosis diagnosis was made. In this scenario, granulomatous vasculitis of small cerebral blood vessels may be the cause of the stroke-like syndrome. Histoplasmosis of the central nervous system remains a difficult diagnosis that necessitates a high degree of suspicion on the

part of the clinician in order to initiate therapy early and improve outcomes. Histoplasmosis is a fungal infection brought on by *Histoplasma capsulatum*, and there have only been a few cases reported from the northwest region of India. An even rarer mycotic disease is adrenal histoplasmosis. Five immune compromised men with constitutional symptoms and adrenal histoplasmosis are described. One patient had a unilateral adrenal mass, while four others had bilateral adrenal involvement. At presentation, three patients had adrenal insufficiency; two more patients developed adrenal insufficiency during follow-up. All patients received treatment with itraconazole and amphotericin B, which improved their symptoms but left them all with adrenal insufficiency at the end of the follow-up.

## Disseminated Histoplasmosis

The bacterium *Histoplasma capsulatum* is responsible for the most prevalent endemic mycosis in the United States, known as histoplasmosis. When an infection is symptomatic, it typically takes the form of pulmonary histoplasmosis. Often, the infection goes away on its own. *H. capsulatum* can spread to extrapulmonary sites and cause disseminated infection in its most severe form. Here, we describe an unusual case of CNS histoplasmosis in which bilateral lower extremity paresis and loss of sensation were caused by bilateral focal multiple spinal cord lesions alone. CNS histoplasmosis should be included in the differential diagnosis of meningitis, encephalitis, or isolated brain or spinal cord lesions in endemic areas, despite the fact that it is uncommon. *Histoplasma capsulatum* is the agent that causes histoplasmosis. Histoplasmosis, like the majority of fungal infections, frequently affects immune compromised patients. In immune competent patients, infection rarely progresses to a disseminated form and is typically asymptomatic. A disseminated form of Addisonian crisis has been reported at this time. An elderly immune competent Indian patient was diagnosed with disseminated histoplasmosis, which resulted in a life-threatening adrenal crisis and hypercalcemia. The patient experiences significant improvement as a result of the appropriate diagnosis as well as antifungal and steroid treatment. When adrenal involvement is present in immune

compromised hosts, histoplasmosis should be considered. In a renal transplant patient with a history of parathyroidectomy, hypercalcemia and weight loss raise concerns about a granulomatous disease, fungal infections, or cancer. A 45-year-old man with a history of subtotal parathyroidectomy presents with severe and persistent hypercalcemia, acute kidney injury (AKI), and significant weight loss in this case.

Disseminated histoplasmosis was discovered after extensive testing. After a few weeks of starting the antifungal treatment, the hypercalcemia and other symptoms, which were resistant to the initial medical treatment, went away. Once it spreads, Histoplasmosis, a fungal infection brought on by *Histoplasma capsulatum*, has a poor prognosis, particularly in immunocompromised patients. Disseminated histoplasmosis and acquired immunodeficiency syndrome (AIDS) were the diagnoses made for a Japanese-Brazilian man, 50 years old, who had multiple cervical lymphadenopathies. Antiretroviral therapy (ART) was followed by antifungal therapy. Voriconazole treatment enabled him to enter long-term remission. An AIDS patient with disseminated histoplasmosis who survived long-term in a non-endemic area is the subject of this case report. The second most frequently reported fungal infection among domestic cats in the United States is histoplasmosis. After inoculation, the organism frequently spreads to other organ systems, affecting the respiratory, gastrointestinal, reticuloendothelial, skeletal, integument, and ocular systems. However, there has never been a report in the veterinary literature of histoplasmosis presenting as a distinct granulomatous mass detected on an echocardiogram. The first instance of feline histoplasmosis presenting as a granuloma with cardiac involvement is described here. Tachypnea and dyspnea were referred for the 6-year-old male domestic longhair feline. Two-dimensional echocardiography was used to diagnose a mass abutting the heart in the cranial mediastinum. The round yeast structures found in fine-needle aspirates from the mass were consistent with *Histoplasma* spp., as determined by cytology. After receiving oral fluconazole treatment, the patient's clinical parameters, lesion size, and antigen concentrations have significantly improved during subsequent rechecks.