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Perspective

Diagnosis of Histoplasmosis Infection and its Symptoms

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DESCRIPTION

Histoplasmosis is a fungal infection caused by Histoplasma capsulatum. The symptoms of this infection vary widely, but the disease mainly affects the lungs. Sometimes other organs are also affected; called disseminated histoplasmosis, can be fatal if left untreated. Histoplasmosis is common in patients with Acquired Immune Deficiency Syndrome (AIDS) due to their suppressed immunity. In immunocompetent individuals, past infection results in partial protection against harmful effects if they are reinfected. Histoplasma capsulatum is found in soil, often associated with decaying bat guano or bird droppings. Soil disturbance from excavation or construction can release infectious elements that are inhaled and lodge in the lungs.

Diagnosis

Clinically, there is a wide spectrum of manifestations of the disease, which somewhat complicates the diagnosis. More severe forms include the chronic pulmonary form, which often occurs in the presence of underlying lung disease, and the disseminated form, which is characterized by progressive spread of infection to extrapulmonary sites. Oral manifestations have been reported as the chief complaints of disseminated forms that lead the patient to seek treatment, while pulmonary symptoms in disseminated disease may be mild or even misinterpreted as influenza. Histoplasmosis can be diagnosed using samples containing the fungus from sputum (*via* bronchoalveolar lavage), blood, or infected organs. It can also be diagnosed by detecting antigens in blood or urine samples using ELISA or polymerase chain reaction. Histoplasmosis can also be diagnosed with a test for antibodies against histoplasma in the blood. Histoplasma skin tests show whether a person has been exposed but does not indicate whether they have the disease. Formal diagnoses of histoplasmosis are often confirmed only by direct culture of the fungus. Sabouraud's agar is one agar growth medium on which the fungus can be cultured. The skin manifestations of disseminated disease are different and often appear as a bland rash with systemic problems. Diagnosis is best made by urine antigen testing, as blood cultures may take up to 6 weeks to grow diagnostically, and serum antigen testing often returns falsely negative before 4 weeks of disseminated infection.

Symptoms

If symptoms of histoplasmosis infection occur, they occur within 3 to 17 days after exposure; usual time is 12-14 days. Most affected individuals are clinically silent and show no obvious harmful effects. The acute phase of histoplasmosis is characterized by non-specific respiratory symptoms, often cough or flu. Chest X-ray findings are normal in 40%-70% of cases. Cases of chronic histoplasmosis may resemble tuberculosis; disseminated histoplasmosis affects multiple organ systems and is fatal if untreated.

While histoplasmosis is the most common cause of mediastinitis, it remains a relatively rare disease. Severe infections can cause hepatosplenomegaly, lymphadenopathy, and adrenal enlargement. Lesions often leave calcified nodules as they heal.

The presumed ocular histoplasmosis syndrome causes chorioretinitis, where the choroid and retina of the eye are scarred, resulting in vision loss not unlike macular degeneration. Despite its name, the relationship to Histoplasma is controversial. Unlike POHS, acute ocular histoplasmosis can rarely occur in immunodeficiency.

In the absence of proper treatment, and especially in immunocompromised individuals, complications can occur. These include recurrent pneumonia, respiratory failure, fibrosing mediastinitis, superior vena cava syndrome, pulmonary vascular obstruction, and progressive lymph node fibrosis. Fibrous mediastinitis is a serious complication and can be fatal. Smokers with structural lung disease are more likely to develop chronic cavitary histoplasmosis.

After the lesions heal, hard, calcified lymph nodes can erode the airway walls and cause hemoptysis.

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