Histoplasmosis

Histoplasma is a genus of dimorphic fungi known to be the causative agent of histoplasmosis. This organism has a yeast form that is 2-5 um and found within macrophages within the body. It is commonly found in bat and Starling bird feces and contracted by inhalation of the spores. Therefore, it is commonly associated with entrance into caves and is most prevalent in the Ohio and Mississippi river valleys. Symptoms of this infection vary but the disease primarily affects the lungs, causing pneumonia. Occasionally, the organism can disseminate and affect other organs including the meninges, liver, or adrenals and widely disseminated disease can occur in the immunocompromised. Histoplasma infections produce granulomas, which usually undergo caseating necrosis and can form large areas of consolidation. Like most systemic mycoses, treatment includes an azole antifungal for local infection along with amphotericin B for systemic infection.



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Fungi
Fun-guy
This organism is a dimorphic fungus, existing as a mold in the cold (20C) and yeast in the heat (37C). It can be detected in the serum or urine of patients using both serum and urine antigen detection tests.

2-5 um
2-5 um ruler
The yeast form is 2-5 um and found within macrophages in the body.

Yeast Cells within Macrophages
Yeast drink with Mac-man
Histoplasma are intracellular pathogens. Therefore the yeast form can be found within macrophages in the body. A common mnemonic used to remember this fact is “histo hides” (in macrophages).

Starling Bird Poop
Star Bird Pooping
Histoplasma capsulatum is found in Starling bird feces and contracted by inhalation of the spores.

Bat Poop
Bat Poop
Histoplasma capsulatum is found in bat feces and contracted by inhalation of the spores.

Caves
Cave
Because this organism is contracted via inhalation of spores found in bat and bird feces, it is commonly associated with entrance into caves.

Mississippi and Ohio River Valleys
Mississippi and Ohio river on tv screen
This disease is most prevalent in the United States in the Mississippi and Ohio River Valleys.

Pneumonia
Nude-Mona
Symptoms of this infection vary but the disease primarily affects the lungs, causing pneumonia. Pneumonia is an inflammatory condition of the alveoli in the lungs, associated with fever and respiratory symptoms. Chest X-ray will reveal consolidations and often bilateral hilar lymphadenopathy.

Caseating Granuloma
Cheese-eating Granny-llama
Histoplasma infections produce granulomas as the body attempts to wall-off the infection. These granulomas can undergo caseating necrosis and can form large areas of consolidation.

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Erythema Nodosum

Nodosaur with Red Bumps on Legs

Erythema nodosum is inflammation of the fat cells beneath the skin. It is characterized by red tender nodules or bumps on the anterior surface of the shins. Histoplasma can be associated with erythema nodosum. In disseminated disease, other findings can include hepatosplenomegaly, pancytopenia, or oral ulcers.

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