

CHEST PAIN IN AN 8-YEAR OLD. Kimberly Tartaglia, MD. ¹Department of Pediatrics, Comer Children's Hospital, University of Chicago, Chicago, IL.

Case Report: An 8-year old with a history of mild intermittent asthma presents with a 1-week history of chest pain. He described the pain as "someone hitting his chest" and intermittent but not associated with eating, dyspnea, wheezing, or cough. On exam, he was afebrile with a normal lung exam and tachycardia on heart exam. In his pediatrician's office, he experienced an episode of syncope. CXR showed an enlarged cardiac silhouette. EKG showed electrical alternans, and echo showed a large pericardial effusion. Chest CT showed calcified hilar adenopathy with normal lung parenchyma and splenic calcifications. Pericardial biopsy showed granulomatous pericarditis with negative culture and TB PCR. PPD and gastric aspirates for AFB were negative. Biopsy of hilar lymph nodes showed caseating granulomas. Histoplasma urine antigen was negative. However, antibodies for Histoplasma were positive by complement fixation and immunodiffusion.

Discussion: *Histoplasma capsulatum* is a dimorphic fungus endemic to North America. Infection occurs when soil contaminated with infectious spores is inhaled. Symptomatic infection occurs in <5% of people with low-level exposure but can be as high as 50-100% in patients with high-inoculum exposure. Symptoms may include fever, chills, headache, myalgias, cough, or chest pain. Histoplasmosis pericarditis occurs in approximately 10% of symptomatic cases of histoplasmosis and is a result of adjacent mediastinal inflammation. Hemodynamic compromise requiring pericardiocentesis occurs in up to 40% of patients. Diagnosis of histoplasmosis pericarditis is made definitively by culture (10% sensitivity). However, serologic tests are useful in diagnosing histoplasmosis because less than 1% of residents in endemic areas are seropositive by immunodiffusion. The sensitivity of serologic testing is as high as 98%. Long-term outcome of histoplasmosis pericarditis is excellent and rarely progresses to constrictive pericarditis. Since pericarditis is caused by an inflammatory response, anti-inflammatory agents are generally sufficient, and anti-fungal agents do not alter the clinical course.

Chest Pain in an 8-year old

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Introduction

Chest pain in children is a common complaint, often attributed to musculo-skeletal conditions. However, the differential diagnosis of chest pain is broad, and work-up must be guided by the patient's initial presentation.

Case Description

An 8-year old with a history of mild intermittent asthma presented with a 1-week history of chest pain. He described the pain as intermittent and "someone hitting his chest." It was not associated with eating, dyspnea, wheezing, or cough. On exam, he was afebrile with a normal lung exam and tachycardia on heart exam. In his pediatrician's office, he experienced an episode of syncope. CXR showed an enlarged cardiac silhouette.

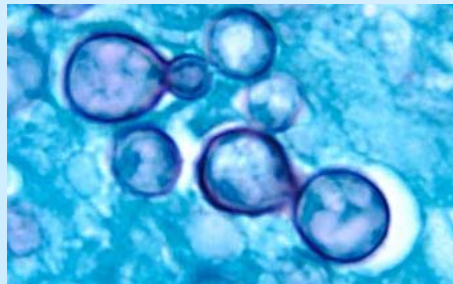


Case Description

Echocardiogram revealed a large pericardial effusion, and chest CT showed calcified hilar adenopathy with normal lung parenchyma and splenic calcifications. Pericardial biopsy showed granulomatous pericarditis with negative culture and TB PCR. PPD and gastric aspirates for AFB were negative. Biopsy of hilar lymph nodes showed caseating granulomas with negative fungal and AFB stains. Histoplasma urine antigen was negative. However, antibodies for Histoplasma were positive by positive by complement fixation and immunodiffusion.

Discussion

Histoplasma capsulatum is a dimorphic fungus endemic to North America. Infection occurs when soil contaminated with infectious spores is inhaled. Symptomatic infection occurs in <5% of people with low-level exposure but can be as high as 50-100% in patients with high-inoculum exposure. Symptoms may include fever, chills, headache, myalgias, cough, or chest pain.



Discussion

Histoplasmosis pericarditis occurs in approximately 10% of symptomatic cases of histoplasmosis and is a result adjacent mediastinal inflammation. Hemodynamic compromise requiring pericardiocentesis occurs in up to 40% of patients. Diagnosis of histoplasmosis pericarditis is made definitively by culture (10% sensitivity). Serologic tests are useful in diagnosing histoplasmosis because less than 1% of residents in endemic areas are seropositive by immunodiffusion.

Long-term outcome of histoplasmosis pericarditis is excellent and rarely progresses to constrictive pericarditis. Since pericarditis is caused by an inflammatory response, anti-inflammatory agents are generally sufficient, and anti-fungal agents do not generally alter the clinical course.

References

Wang JJ and Reimold SC. Chest Pain Resulting from Histoplasmosis Pericarditis: A Brief Report and Review of the Literature. *Cardiology in Review* 2006; 14 (5): 223-226.

Wheat J, et al. Practice Guidelines for the Management of Patients with Histoplasmosis. *CID* 2000; 30: 688-695.