Two unusual presentations of disseminated histoplasmosis in children living in Texas

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Introduction

Histoplasmosis is the most prevalent mycosis reported in the United States, caused by fungal respiratory exposition. The most common clinical presentation of symptomatic histoplasmosis in children is a flu-like illness that is self-limited. Histopathological diagnosis can occur. While a normal chest x-ray can be reassuring, a normal respiratory infection is rare except in adults with impaired immunity at the extremes of age. Disseminated histoplasmosis can present with pulmonary disease, hepatosplenomegaly, multisystemic clinic presentation, and gastrointestinal involvement. Laboratory findings include: pancytopenia, elevated liver enzymes, increased LDH, elevated IgG and IgM, and decreased T cell counts and mitogen responses. Disseminated histoplasmosis is seen in patients, but can occur in children – 2 years of age, at least 63 cases have been reviewed. There are two unusual cases of disseminated histoplasmosis with unusual manifestations.

Case 1

Our first patient is a 4 month old, 34 week premature male with a two month history of fever and respiratory distress. His history of respiratory distress continued and his chest x-ray was consistent with pneumonia. He presented to Texas Children’s Hospital for massive hepatosplenomegy, an abdominal mass, and emphysema. His chest CT was consistent with CNS disease. Progressive illness included: pancytopenia, thrombocytopenia, neutropenia, and CSF pleocytosis. He was referred to Texas Children’s Hospital for massive hepatosplenomegy, an abdominal mass, and emphysema. His chest CT was consistent with CNS disease. Progressive illness included: pancytopenia, thrombocytopenia, neutropenia, and CSF pleocytosis.

Our patient underwent a lymph node and bone marrow biopsy that showed budding yeast consistent with Histoplasma. Cultures from the lymph node biopsy grew Histoplasma capsulatum.

Differential diagnosis of disseminated histoplasmosis is broad, and includes: Infectious etiologies (Viral, bacterial, mycobacterial, fungal), Non infectious etiologies (Malignancy, Lymphoproliferative disorders, including Rosai-Dorfman, ALPS), Immunodeficiency syndromes.

Discussion

Here we present 2 cases of disseminated histoplasmosis in young children living in Texas. In 1988, Leggadore, et al., published a series of 19 patients seen in Memphis, TN from 1948-1986. Patients were aged 8-48 months at presentation, and 18/19 patients presented with cough/ respiratory distress, 18/19 with liver involvement, and 17/19 with a normal CSF. Progressive illness included: pancytopenia, thrombocytopenia, neutropenia, and CSF pleocytosis. He was referred to Texas Children’s Hospital for massive hepatosplenomegy, an abdominal mass, and emphysema. His chest CT was consistent with CNS disease. Progressive illness included: pancytopenia, thrombocytopenia, neutropenia, and CSF pleocytosis.

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Our patient underwent a lymph node biopsy that showed budding yeast (Figure 5). Cultures from the lymph node biopsy grew Histoplasma capsulatum.

Case 2

Our second patient is an otherwise healthy 2 year old with a two month history of increasing abdominal distension. His weight history of respiratory distress continued and his chest x-ray was consistent with pneumonia. He presented to Texas Children’s Hospital for massive hepatosplenomegy, an abdominal mass, and emphysema. His chest CT was consistent with CNS disease. Progressive illness included: pancytopenia, thrombocytopenia, neutropenia, and CSF pleocytosis.

Our patient underwent a lymph node biopsy that showed budding yeast (Figure 5). Cultures from the lymph node biopsy grew Histoplasma capsulatum.

Histopathology and fungal culture are definitive. The diagnostic fungal test includes: Histopathology in young children is typically treated with amphotericin B for 4 weeks followed by oral itraconazole for 12 months.

Conclusions

Here we present 2 cases of disseminated histoplasmosis in young children from Texas. This is a rare infection in Texas, but these 2 cases emphasize the need to keep histoplasmosis on the differential diagnosis in young children presenting with prolonged fever, failure to thrive, hepatosplenomegaly, pancytopenia, or multisystemic manifestations. Both of these cases are unusual in that our patients were relatively well appearing on presentation, and our first patient was able to be admitted at presentation, which are atypical for young infants with disseminated histoplasmosis. Our second patient had an atypical presentation of intermediate “blue spell” in the face – thought to be secondary to intravenous SVV compression by mediastinum lymphadenopathy. Diagnosing histoplasmosis can be challenging, as the histopathology antigen and serotonin histopathological confirmation studies can be negative, as we saw with our first patient. Diagnostic definition was made in both of our patients with histopathology and culture, and both patients responded well to oral itraconazole.

References

Pediatrics. 1999;103(7):E86


http://www.doctorfungus.org/mycoses/human/histo/histoplamosis_c.php

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Figure 1: Distribution of Histoplasmosis in the United States

Figure 2: CT scan of the chest

Figure 3: Bone marrow and lymph node biopsy

Figure 5: Lymph node biopsy