Pediatric Histoplasmosis in the Midwest: A Retrospective Chart Review

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Background:

Histoplasma capsulatum is the most prevalent endemic mycosis in North America, particularly in the Ohio and Mississippi River Valleys. Disease severity ranges from asymptomatic to life-threatening, with up to 90% of residents in endemic areas exposed to *H. capsulatum*. While Histoplasmosis in adults is well-studied, pediatric data are limited. This study aims to elucidate the disease course, health outcomes, diagnosis, and epidemiology of Histoplasmosis in children through a retrospective chart review, intending to enhance diagnosis and recognition in this population. Future research will investigate whether the enzyme immunoassay antibody test is more sensitive than other modalities for pediatric diagnosis.

Methods:

We retrospectively reviewed charts of pediatric patients (≤18 years old) diagnosed with Histoplasmosis at IU Health-affiliated centers between 2010 and 2021 (n=100). Data on Histoplasma testing (antibody, antigen, histopathology, cytology), epidemiology, clinical manifestations, outcomes, treatment course, and immune status were collected. Chi-squared tests were used to determine relationships between categorical variables in our preliminary analysis. In the future, we will ascertain the sensitivity for each testing modality and conduct more comprehensive analyses of the clinical data.

Results:

Preliminary findings illustrate the demographics and clinical manifestations of pediatric Histoplasmosis, identifying cough, fever, and headache as the most common symptoms, with mediastinal and hilar lymphadenopathy being the predominant lymphatic manifestations. The liver and spleen were the primary sites of extrapulmonary dissemination. Chi-squared analysis confirmed our sample's representativeness of the Indiana population in terms of race, ethnicity, and residence. Interestingly, a relationship between gender and disease severity/classification emerged, necessitating further investigation.

Potential Impact:

Our understanding of adult Histoplasmosis is extensive, but limited data in the pediatric population has led to a lack of pediatric-specific protocols. This study, comprising the largest cohort of pediatric histoplasmosis cases in the US, aims to expand our knowledge to improve early recognition and diagnosis of pediatric Histoplasmosis.