



A RARE CASE OF PEDIATRIC DISSEMINATED HISTOPLASMOSIS PRESENTING AS HEMOPHAGOCYTIC LYMPHOHISTIOCYTOSIS IN A SETTING OF IMMUNOSUPPRESSION.

Pathology

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ABSTRACT

Background: Disseminated histoplasmosis is a rare fungal infection and most documented cases are found in immune-compromised individuals especially HIV infection.

Objective: To describe a case of progressive disseminated Histoplasmosis in an HIV reactive adolescent girl with fever and rash presenting as HLH.

Case study: We report a case of disseminated histoplasmosis in a 12 year old HIV reactive adolescent girl, admitted with PUO, skin rash, a short travel history without any known illness in the past.

Conclusion: Histoplasmosis should be considered as a differential diagnosis in HIV reactive patients with HLH irrespective of the endemicity.

KEYWORDS

Disseminated Histoplasmosis, pediatric, HLH, and HIV.

Introduction:

Histoplasmosis is a disease caused by the dimorphic fungus, *Histoplasma capsulatum*. Infection is acquired by inhalation and a vast majority of primary infections go unrecognized medically. The major determinant for the overt illness is likely to be the inoculum size and also the virulence of the strain. It manifests initially as pulmonary histoplasmosis and may progress to disseminated infections. It remains a frequent cause of opportunistic infection among patients who are immune-compromised^{1,3}.

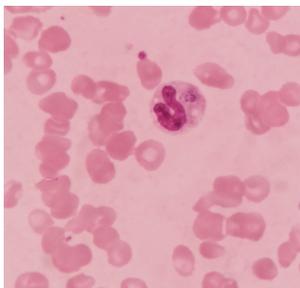
A 12 yr old girl presented with history of high grade fever since 20 days, a non-popular, non pruritic extensive rash all over the body since 10 days. She gave history of travel to Karnataka few days prior to onset of fever. No respiratory illness presently and in the recent past. On examination, patient had hepato-splenomegaly.

On the day of admission, the child was thoroughly investigated for PUO. Investigations to rule out malaria, dengue, typhoid, rickettsia were all negative. Also liver viral markers, CMV and rubella were negative.

On day 7 of admission, patient was toxic and CBC picture was of severe leucopenia with a drop in hemoglobin from 10 to 8 gm/dl. Platelet counts were normal.

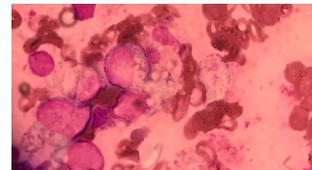
LFT showed hypo-albuminaemia, increased liver enzymes, LDH AND FERRITIN were markedly raised with moderately high triglycerides. Coagulation studies showed mildly raised prothrombin time, ↑ed APTT, D-dimer and low fibrinogen levels. Hence a diagnosis of HLH was made

Peripheral blood smear interestingly showed intra cellular cytoplasmic inclusion bodies in neutrophils and monocytes, singly and in groups. The inclusion bodies were round to ovoid with basophilic margins **PIC -1**



PIC-1

A bone marrow aspirate showed similar intra cytoplasmic inclusion bodies. **(PIC 2)**



PIC-2

A differential diagnosis of Histoplasma and Leishmania was done. HIV test done was found reactive.

Culture: Bone marrow aspirate was inoculated in Mycolytic F bottle and then inoculated on Sabaroud dextrose agar and N.N.N medium

N.N.N medium was incubated at 25 °C. Leishmania culture was negative at 8 week of incubation

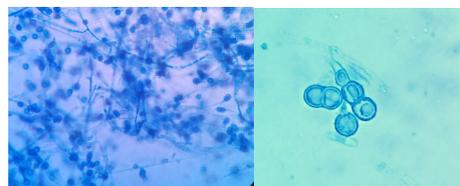
Sabaroud dextrose agar was incubated at 2 different temperatures: 37 °C and 30 °C to demonstrate dimorphism.



On 6th day of incubation, yeast like colonies grew on SDA AT 37°C. **(PIC 3)**

PIC - 3

In the 7th week of incubation, a mould grew with features suggestive of *Histoplasma capsulatum* **(PIC 4)**.



PIC - 4

A confirmed diagnosis of Histoplasmosis was done.

Discussion:

1. This case was a pediatric patient which is uncommon¹. A similar case was reported by Agarwal et al⁵.

2. No involvement of respiratory system in our case was also reported by Sanchez et al^{6,4}.
3. Histoplasmosis is known to occur in Bengal, Assam and particularly in the Gangetic delta¹⁰. It was recently been reported from other parts of India like Kerala and Andhra Pradesh^{2,1,11}.
4. Our patient was HIV reactive. Histoplasmosis is commonly found in this setting⁷.
5. HLH is an uncommon clinical presentation due to Histoplasma. It has been reported in the past by Sanchez et al^{6, 15}. In India, Sonavane et al have reported HLH with Histoplasmosis.^{3,12}.
6. Culture helped establish the diagnosis. The culture had to be incubated for 7 weeks. Xiong et had grown the culture in 4 weeks⁹. Mycolytic F bottle helped in culture of intra cellular pathogens like Histoplasmosis¹⁴.
7. Since culture took time, treatment with Amphotericin B was initiated as both Histoplasma and Leishmania would give good clinical response to Amphotericin B. The patient did well within 48 hours of therapy.^{1,8}

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