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Disseminated Histoplasmosis Complicated with Haemolytic Anaemia

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ABSTRACT

Here I present a case of disseminated histoplasmosis in a female child of eight years presented with fever, generalized lymphadenopathy, hepatosplenomegaly, pancytopenia and haemolytic anaemia. Diagnosis of histoplasmosis was delayed due to lack of clinical thinking and diagnostic facility. She was given different types of antibiotics over prolonged period and also received trial anti-TB. But as she did not improve rather deteriorated she was referred for exclusion of haematological malignancy. But her bone marrow study revealed *Histoplasma capsulatum*. She was started treatment accordingly but it was too late. She died after seven days of diagnosis.

INTRODUCTION

Histoplasma capsulatum is an endemic mycosis with global distribution, primarily reported in immunocompromised individuals. It is a dimorphic fungus endemic to Ohio, Missouri and Mississippi River valleys in the United States, as well as some river valleys in Central America [1]. In India, histoplasmosis seems to be prevalent in the Gangetic delta [2]. Primary infection is acquired through inhalation of conidia present in nature (caves with bats, chicken coops, etc.). It is a self-limited disease with clinical signs absent in healthy individuals [3]. Definite diagnosis of histoplasmosis is made by demonstrating fungi on microscopy or cultures. Cultures may take up to six weeks to become positive and can lead to a significant delay in diagnosis. The treatment of choice is amphotericin B followed by oral itraconazole or itraconazole alone depending upon severity and extent of disease [4].

CASE REPORT

An eight years old girl was suffering from eczematous skin lesion for one year. Initially it was mainly over forehead and neck and gradually it spread all over the body. Fever for last several months which was initially low grade but later it became continuous and high grade. She lost significant body weight documented 3kgs over last two months. She had generalized lymphadenopathy, huge splenomegaly and also hepatomegaly. She was tried with different types of antibiotic and also anti-TB trial. But as she did not improve rather deteriorated and became pancytopenic she was referred for exclusion of haematologial malignancy. After taking detailed history I thoroughly re-evaluated her. By that time she developed cough without sputum. There was a poultry farm nearby their residence. Her elder sister also died of similar symptom few months ago. She was severely anaemic, mildly icteric, high pyrexia and gross emaciation with generalized plaques without crusts. Her CXR was normal,

indirect bilirubin was high along with total bilirubin, red cell count was reduced, peripheral blood film revealed features of haemolysis and pancytopenia without any atypical cells and high ESR. Her coombs test was negative, retiulocyte production index (RPI) 3.1, LDH 530U/L, S. Ferritin 1200ng/ml, HIV was negative. Malaria Kala-azar and typhoid fever was excluded. Her bone marrow aspirate smears showed many intracellular and extracellular yeast forms of *H. capsulatum*.

With the diagnosis of disseminated histoplasmosis oral itraconazole was started as amphotericin B availability was delayed due to various reasons. She was transfused red cell concentrate along with steroid. But after seven days she was expired.

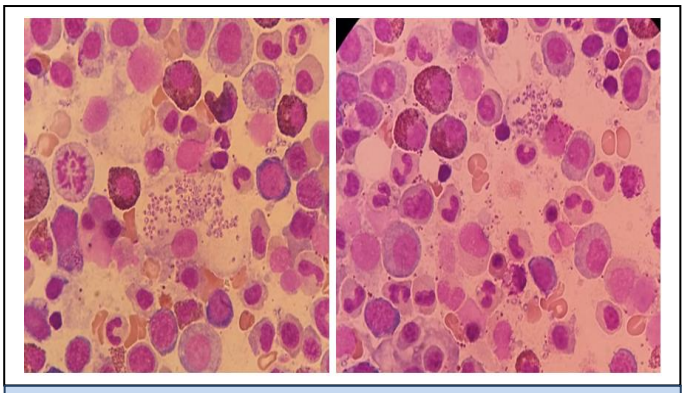

Figure 1: Both pictures showing intracellular and extracellular yeast forms of *H. capsulatum*

DISCUSSION

Histoplasmosis may present clinically in different forms: asymptomatic infection, an acute or chronic pulmonary infection, mediastinal fibrosis or granulomas and as disseminated histoplasmosis. The development of progressive disseminated histoplasmosis indicates impaired cell-mediated immune responses [6]. This condition may be rapidly fatal if the cause is not discovered and treated adequately. Here in this case diagnosis of histoplasmosis was delayed because the disease is not so frequently diagnosed in Bangladesh because of lack of diagnostic facility and clinical thinking. Anaemia in histoplasmosis is common and is multi factorial but mostly because of the bone marrow involvement. However, the case described above also had a classical coomb's negative hemolytic anemia. There are also some reported cases of haemolytic anaemia in histoplasmosis but the pathophysiology of such an occurrence is still not clear [7,8,9].

Due to early death there was not enough time to evaluate the cause of her immunosuppressed status but as her sister was also died of similar symptoms, there may be congenital IgM deficiency or malnutrition may be a contributory factor. As there has been a suggested association with IgM deficiency and predisposition to bacterial viral and fungal infection [10].

Histoplasmosis seems to be prevalent in the Gangetic delta. It thought to be endemic in Bangladesh but reported case detection is somewhat rare. Muhammad Abdur Rahman *et al.* reviewed published, unpublished, well-documented histoplasmosis cases from 1962 to 2017 which could include only a total of 26 male patients aged 8–75 years [11]. So histoplasmosis is a neglected disease entity in Bangladesh and many other parts. It should be kept in clinical consideration in symptomatic patient.

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