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Case Report

Splenic abscess in Beta-Thalassemia Major - A case report

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ABSTRACT

Splenic abscess is a rare complication of thalassemia major. It has a high mortality due to delay in diagnosis and treatment. Medical treatment alone is insufficient and splenectomy is considered to be a gold standard for splenic abscesses. In this paper, we report a 22-year-old thalassaemic male with splenic abscess. He presented with moderate pain in left hypochondrium and tender splenomegaly. The diagnosis was confirmed by ultrasonography and computerized tomography scan and histopathology.

Keywords: spleen, abscess, thalassemia, splenectomy

INTRODUCTION

Splenic abscess is a rare entity with only 600 cases reported in the literature. It is more common in patients with endocarditis, immunodeficiency and in patients with AIDS and is caused by streptococcus, staphylococcus, mycobacteria, fungi and parasites.[1] Patients with beta-thalassemia major have an increased susceptibility to infection, which is attributable to a number of immune abnormalities found in these patients. Early supportive care and parenteral broad-spectrum antibiotics are of paramount importance; but the gold standard for treatment is splenectomy. In this report, we describe additional case of splenic abscess in a patient with beta- thalassemia major.

CASE HISTORY

A 22-year-old male, presented with moderate pain in left hypochondrium. His clinical examination revealed distended and painful abdomen. The pain was incising in nature and was not associated with nausea and vomiting. The relevant laboratory investigations showed haemoglobin 9.9 g/dl, white blood cell count 5890 /cu mm, platelet count 1,14,000/cu mm and serum ferritin 3230 ng/ml. Hepatitis B and human immunodeficiency virus screening were negative however he was positive for HCV infection. His blood culture showed no growth. Ultra-sonography and Computed Tomography scan confirmed presence of single splenic abscess, measuring 13x10x8 cm in size and a small infarction and diffuse hemosiderosis of spleen. When patient was 6-year-old, he was diagnosed as beta thalassemia major and was regularly followed up and was given blood transfusion. Thus, in the past 13 years, he received 255 units of red cell concentrate. During hospitalization, he was treated with antibiotics and subsequently his splenectomy was performed and resected spleen was received for histopathological evaluation.

The spleen was enlarged, weighed 1600 gm. and measured 27x16x12 cm. in size. The capsular surface of spleen on superior pole showed yellowish exudates (Figure 1) and the cut surface of it revealed abscess cavity measuring 13x10x8 cm. in size, containing approximately 500 ml. of yellowish pus. The inner surface of abscess cavity showed yellowish necrotic material (Figure 2). A small triangular pale

infarct measuring 2x2 cm. in size, was found near abscess cavity. The cut surface of the spleen showed diffuse brownish appearance suggestive of hemosiderosis which was confirmed by Prussian blue stain (Figure 3). The pus culture was negative for microorganisms. The microscopic examination of the abscess wall showed necrosis and intense inflammatory cells infiltrates comprising of neutrophils and histiocytes. The red pulp showed course brownish granular hemosiderin pigments which on Prussian blue staining gave positive reaction (Figure 4).

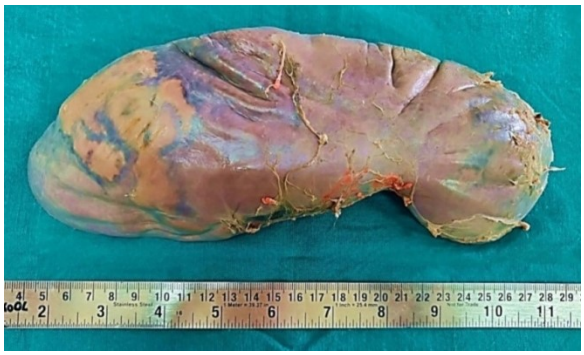

Figure 1: Showing yellowish purulent exudate on the capsular surface of spleen

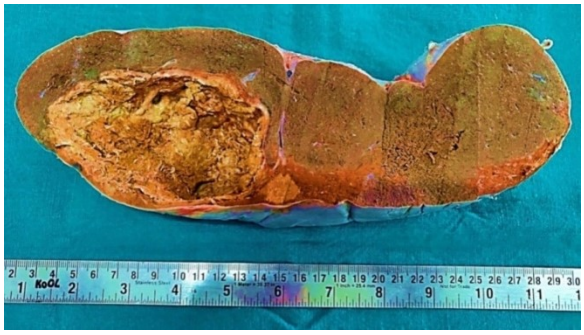

Figure 2: Showing abscess cavity and brownish discoloration to cut surface of the spleen suggestive of Hemosiderosis

Figure 3: showing diffuse blue colour of the cut surface of spleen with Prussian blue stain

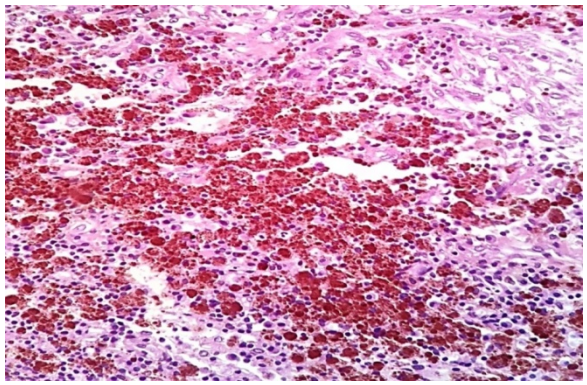

Figure 4: showing brownish course hemosiderin pigment in macrophages (H&E x 200)

DISCUSSION

Bacteremic infection from a variety of sites is the most common cause of splenic abscess. Classically infective endocarditis has been most strongly associated with splenic abscess, and in most series, endocarditis is identified as the leading cause.[2]Complications of splenic abscess can be life threatening and include perforation into peritoneum which occurred in 19 (6.6%) of 287 patients in recent series.[3]Rupture into adjacent organs can occur, with resulting fistulas into the gastrointestinal tract, the pleural space, or lung parenchyma. Overall mortality rates of 0% to 14% have been reported with appropriate therapy, although higher rates occur among immunocompromised patients.

Splenic abscess is a recognized complication of sickle cell disease, in which there is a high incidence of splenic infarction that causes functional asplenia which in turn predisposes to infection and bacteremia.[4-5] Patients of thalassemia are also at increased risk of infection due to defect in neutrophil chemotaxis.[6] In addition, iron overload in thalassemia compromises the ability of phagocytes to kill microorganisms, causing a number of infections with unusual organisms.[7] The iron chelator Deferoxamine has also been implicated in the development of opportunistic infections in some patients with iron overload.[8] Some pathogenic bacteria and fungi can utilize the iron bound by Deferoxamine to promote their growth, thereby enhancing the risk of severe infection. To the best of our knowledge, only two reports of splenic abscess in patients with thalassemia are described in the literatures.[9.10]To the best of our knowledge, the present report is the first case in the Indian literature describing splenic abscess in a patient with thalassemia.

CONCLUSION

Since patients of thalassemia are at increased risk of infections, regular follow up for identification of infections in these patients should be done. These patients should be given oral antibiotic prophylaxis.

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