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Medicine

SPLENIC INFARCT IN A PATIENT OF ACUTE PLASMODIUM VIVAX MALARIA: A RARE CASE REPORT

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ABSTRACT Malaria is among one the most common infectious disease throughout India. There can be various life threatening complications of malaria among which splenic infarction is one but is very rare. Splenic infarction mainly occurs in cases of infective endocarditis due to thromboembolism, lymphomas, leukamias , sickle cell anaemia, polycythemia vera and few other haematological conditions . Splenic infarcts are rare in malaria and most reported cases are due to plasmodium falcifarum infection. Our patient had a splenic infarct due to plasmodium vivax , hence we report this case.

KEYWORDS : plasmodium vivax, splenic infarct, splenic abscess

INTRODUCTION

Splenic infarction occurs commonly in lymphomas, leukamias , sickle cell anaemia, polycythemia vera and few other haematological conditions. It can also occur in infective endocarditis due to thromboembolism ,haematological malignancies, and in hypercoaguable states such as protein C and protein S deficiency, leiden mutation . Splenic infarcts are rare in malaria and most reported cases are due to plasmodium falcifarum infection. Our patient had a splenic infarct due to plasmodium vivax , hence we report this case.

CASE REPORT

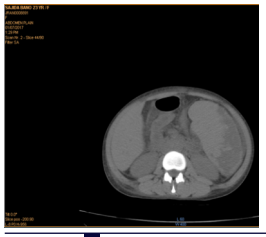
A young Indian female was admitted to our hospital with history of fever with chills and rigor for last 10 days, with each paroxysm of fever relieved by sweating. The paient complained of pain in left side of upper abdomen for 5 days along with intermittent vomiting. The pain was non radiating in nature and there was no history of haemetemesis or malena . There was no significant past medical history nor there was any family history of similar illness.

On examination, she had a pulse rate of 110/min and blood pressure of 100/60 mm hg. Moreover, the patient had icterus and there was abdominal tenderness in left hypochondrium . The liver was palpable 2 cm below right costal margin and soft tender spleen was palpable 3cm below left costal margin with smooth surface and rounded margins.

Investgations showed a haemoglobin of- 8.4 g/dl , total leucocyte and platlet counts were within normal range. Peripheral blood smear showed schizonts of p vivax , however there was no sickle cells or blasts seen on peripheral blood smear. Card test for Plasmodium vivax was positive.

Blood culture was sterile on two occasions and urine examination revealed no pus cells. Blood for homocystine, protein C and protein S deficiencies , anti nuclear antibody and anti phospholipid antibody, leiden mutation were negative . Haemoglobin electrophoresis was done which was also normal. 2D transthroacic echocardiography was done which was normal and revealed no vegetation .

As the patient complained of persistent pain abdomen, a ultrasonography of the abdomen was done which showed hepatomegaly and a enlarged spleen with a wedge shape hypoechoic area suggestive of splenic infarct. A contrast enhanced ct scan of the abdomen was done which showed a 11.4 cm * 5.3 cm non enhancing hypoattenuating area in the mid and lower pole of spleen consistent with splenic infarction.



Contrast enhanced ct scan of the abdomen showing a 11.4 cm * 5.3 cm infarct in the mid and lower pole of spleen

She was treated with antimalarials (injection artesunate) and was given adequate fluids to maintain hydration and analgesics were given for pain relief. The patient responded to conservative therapy and was discharged in haemodynamically stable condition and is doining well on follow up.

DISCUSSION

Malaria is among one the most common infectious disease throughout India. There can be various life threatening complications, among which splenic infarction is one but rare. Malaria parasites induce a dramatic and significant splenic response mostly characterized by moderate to massive splenomegaly . In fact, in endemic regions malarial parasite transmission can be determined by the spleen size [1]. Splenomegaly though frequent in malaria, it is not of much importance as it is not accompanied by severe symptoms and can be resolved by anti malarial therapy. Splenic infarction in malaria have been reported mainly in patients of falciparum malaria, as mature trophozoites and schizonts undergo sequestration in deep venous microvasculature. Sequestration is generally not seen in vivax malaria . Hence, splenic infarction in vivax malaria patients if present rarely occur secondary to ischemia induced by hyperplasia of the reticuloendothelial system [2,3] .

Spleen is the second most common organ, after the kidney in which embolism and infarction occur. There are many causes of splenic infarction including haematological malignancies like leukemia and lymphoma , atrial fibrillation leading to thromboembolism , rupture of splenic artery aneurysm, septic emboli in cases of infective endocarditis , sickle cell disease and protein C and protein S deficiencies and leiden mutation [4]. Splenic infarction if present is a rare complication of malaria [5].

Splenic infarction can be focal or global and is mainly due due to arterial or venous occlusion. The spleen is supplied by the splenic artery and the short gastric artery. Within the spleen, there is segmental arterial supply and a wedge shape infarct can result from occlusion of a secondary branch . The most common symptom is pain in left side of upper abdomen along with nausea and vomiting . However, one third cases are asymptomatic and clinically silent , diagnosed incidentally on radiological studies .

For diagnosis of a splenic infarction , ultrasonography or computed tomography of the abdomen can be done , though computed tomography is the investigation of choice [6]. The treatment mainly comprises of analgesia , maintenance of hydration with intravenous fluids and prevention of secondary infection with antibiotics . Complications include splenic rupture, splenic abscess resulting from septic emboli or super-infection of a prior infarct [7].

Although splenic infarcts are commonly associated with P. falciparum , to the best of our knowledge, only three documented cases of p.vivax malaria causing splenic infarction have been reported till date . In a retrospective review from South Korea of 34 cases of P. vivax malaria

which had undergone CT abdomen for gastrointestinal indications, it was found that 13 patients (38%) had splenic infarct [8]. Hence splenic infarction, which is although a rare complication of malaria, should be suspected in any patient of malaria who develops pain over the left hypochondrium .

CONCLUSION

Hence splenic infarction, which is although a rare complication of malaria, should be suspected in any patient of malaria who develops pain over the left hypochondrium . The treatment of splenic infarct is mainly conservative but the clinician should also be careful to monitor complications of splenic infarct like splenic rupture ,abscess and hemorrhage as they may require surgical intervention [9].

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