



SPONTANEOUS RUPTURE OF SPLEEN IN P.VIVAX INFECTION

Medical Science

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ABSTRACT

Malaria is one of the infectious diseases in the world. Malaria is major mosquito-borne public health disease in tropical countries. The authors report a Spontaneous rupture of spleen in P.Vivax infection in a 40-year-old man who has history of fever and pain abdomen for 03 days. The physical examination revealed mild tenderness on the right side and left hypochondrium region and abdominal distension.. His peripheral blood smear showed few trophozoites of Plasmodium Vivax. Pelvic-abdominal CT showed a large peri-splenic hematoma with multiple splenic lacerations. Patient was kept conservatively on fluid therapy as patient was hemodynamically stable and given necessary antimalarials, antibiotics and blood transfusions. After the initiation of antimalarial treatment with artesunate and mefloquine, his clinical condition gradually improved. However, after 7 days he still had mild amount of haemoperitonium. Finally, the patient was recovered without any further complications. This case report emphasizes that spontaneous rupture of spleen is also possible in P.Vivax infection.

KEYWORDS

Malaria, Plasmodium Vivax, Spontaneous rupture, Spleen.

Introduction

Malaria has been among the most common infectious diseases in India. The causative microorganism belongs to the Plasmodium family¹. The four common species that are encountered are Plasmodium falciparum, P. vivax, P. malariae and P. ovale. Plasmodium falciparum infection carries more risk of complications such as cerebral malaria, acute renal failure, liver damage, collapse etc¹. Plasmodium vivax is considered to be benign but splenic complications are more common with P. vivax infections². Spontaneous rupture of malarial spleen is uncommon even in the endemic regions of malaria. This may lead to delayed or missed diagnosis of splenic rupture which may be life threatening. Very few case reports are available in literature documenting spontaneous rupture of malarial spleen^{3,4}. We are reporting one such instance of malarial splenic rupture encountered in our department.

Case presentation

A 40 years old male patient with history of fever with chills and pain abdomen since 3 days was admitted in medical unit. He had no symptoms of cough, running nose or other respiratory tract symptoms. His appetite was abnormal and he also had no jaundice, vomiting or diarrhoea. He had no known drug allergies. The vaccination history was not complete. He had taken some partial treatments from a rural health center. On admission, his vitals were revealed a high-grade fever (102.4°F), heart rate 104 beats per minute and respiratory rate 26 breaths/minute. He looked sick and pallor. He had mild tenderness on the right and left hypochondrium region and abdominal distension. His liver was mildly enlarged with firm and sharp margins with tenderness. His spleen was tender. There was no history of any associated trauma.

Investigations

As per abdomen examination, there was only positive finding of tenderness at right and left hypochondrium region. Investigations revealed P vivax malaria with hemoperitoneum (USG finding). Patient's CBC report showed HB 5.2 gm%, parasites-rings & schizonts of P vivax seen, platelet count-90000/cumm. Chest X-ray showing pleural effusion on the left side, so pleural fluid tapping was done, tapped fluid was haemorrhagic. USG finding of the abdomen revealed a splenic hematoma and enlarged spleen and liver with free fluid in the abdomen. Pelvic-abdominal CT showed a large peri-splenic hematoma with multiple splenic lacerations. Patient was kept conservatively on fluid therapy as patient was hemodynamically stable and given necessary antimalarials, antibiotics and blood transfusions. Following this treatment repeat USG abdomen was done after 7 days which showed relatively mild amount of haemoperitonium.

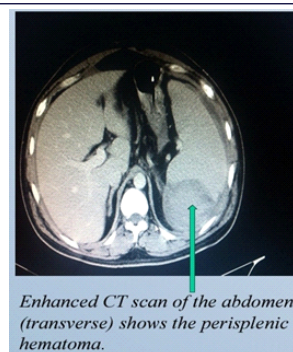


Figure 1: Enhanced CT scan of the abdomen v(transverse) shows the perisplenic hematoma.

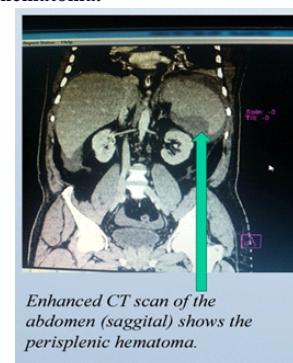


Figure 2: Enhanced CT scan of the abdomen (sagittal) shows the perisplenic hematoma.

DISCUSSION

Patient was suffering from P.vivax malaria infection who developed a spontaneous splenic rupture. The causes include infectious, neoplastic, and hematological diseases. Only an estimated 2% of falciparum malaria cases present with spontaneous splenic rupture¹. The first case of spontaneous rupture of the spleen was reported by Atkinson, an English surgeon, in 18745. A peculiar aspect of this complication is that it can occur in patients on antimalarial prophylaxis and treatment⁶. Although the exact mechanism of splenic rupture in malaria is still not clear, the following mechanisms have been suggested^{7,8(i)} cellular hyperplasia and congestion leading to

increase in intrasplenic tension; (ii) splenic compression by increased intra-abdominal pressure during activities like sneezing, coughing and defecation; and (iii) reticuloendothelial hyperplasia resulting in venous congestion, thrombosis, and infarction, which cause sub-capsular hemorrhage and eventual stripping of the splenic capsule. Clinically, left hypochondrial pain occurring during or following treatment of malaria is the commonest presentation of splenic rupture in malaria⁸. Our case presented with left hypochondrial pain without any history of trauma.

CONCLUSION

Spontaneous splenic rupture in complicated vivax malaria is extremely rare. Splenic rupture with hemoperitoneum should be managed with laparotomy and splenectomy, along with antimalarial drugs. But in this case patient was managed conservatively. A high index of suspicion is needed to detect these complications early.

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