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An Unusual Complication of Dengue Fever

Authors
Dr V. Channaraya[1], Dr Yogitha C[2], Dr Mahesh Desai[3]
[1]Head of Department and Professor, Department of Medicine, KIMS Hospital and Research Centre, K.R Road, V.V Puram, Bengaluru, Karnataka 560004 India
[2]Associate Professor, Department of Medicine, KIMS Hospital and Research Centre, K.R Road, V.V Puram, Bengaluru, Karnataka 560004 India
Email: *yogithachandrakiran@gmail.com*
[3]Postgraduate, Department of Medicine, KIMS Hospital and Research Centre, K.R Road, V.V Puram, Bengaluru, Karnataka 560004 India
Corresponding Author
Dr V. Channaraya
Head of Department and Professor, Department of Medicine, KIMS Hospital and Research Centre, K.R Road, V.V Puram, Bengaluru, Karnataka 560004 India
Email: *vcraya@yahoo.com*

ABSTRACT
Minor bleeding manifestations like petechial rashes, gum bleeding, sub conjunctival hemorrhage are common in dengue fever. But severe hemorrhagic manifestations like hemoperitonium, hemothorax is rare. Here we present a case of 36 year old male who came with fever and headache. Dengue serology showed positive for NS1Ag, who later developed severe pain abdomen and distention of abdomen with severe pallor. Haemoglobin had dropped from 16g% to 4g% and usg abdomen showed gross ascites which was absent at the time of admission, thus contrast enhanced computed tomography(CECT) abdomen was done which showed hemoperitonium. India being endemic for dengue fever, this is an interesting and uncommon presentation.
Key words: *dengue, hemoperitoneum, ultrasound.*

INTRODUCTION

Dengue fever is the most important arbovirus illness worldwide. An estimated incidence of 50–100 million cases per year is seen with alarming 30 fold increase. In India, mosquito-borne diseases seen mostly during the rainy season when the "Aedes" mosquitos breed.[1, 2] Dengue fever is caused by four distinct dengue virus types 1,2,3 and 4 and all four types are prevalent in India. The incubation period of dengue infection is 4-7 days[1], and is clinically characterised by fever, headache, retro orbital pain, myalgia, arthralgia. Maculopapular rash and generalised erythema. Though being generally a mild self limiting disease, about one-third of patients develop severe complications including dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS). Mild hemorrhagic manifestations like petechiae, bleeding gums, epistaxis are also seen. Massive bleeding manifestations like gastrointestinal bleeding, hematuria, bleeding per vagina are relatively uncommon[1]. There are very few case

reports of dengue illness with hemoperitoneum secondary to spontaneous rupture of spleen[3] [5]. We report an interesting and uncommon complication of dengue fever.

CASE REPORT

A 36 year old male presented with fever and headache since 4 days. Patient was not a known case of type 2 diabetes mellitus and hypertension. Patient did not give any history of trauma. On examination patient was febrile. There was no rash or any skin/mucosal bleeding. Vitals were normal and systemic examination was normal. The complete blood count showed haemoglobin-16g%, total leukocyte count-4000cells/cumm, platelet count-0.86lakhs/cumm and packed cell volume was 50.5%. dengue serology was positive for NS1Ag and IgG and IgM were negative. Chest x ray and ultrasound abdomen was normal at the time of admission. Three days after admission, patient developed severe pain abdomen and distention of abdomen. Patient was tachypneic and restless. On examination patient developed severe pallor, blood pressure was 90/70mmHg, abdomen was distended and shifting dullness was present. As oxygen saturation was also dropping patient was shifted to ICU. Blood investigations were repeated and it revealed haemoglobin-4.1g%, platelet count-0.99lakhs/cumm, packed cell volume-20.4%, prothrombin time (PT)-19.4secs, INR-1.3, activated partial prothrombin time (aPTT)-40.2secs, serum amylase-21IU/L, alanine transaminase (SGPT)-434IU/L, aspartate transaminase (SGOT)- 944IU/L. ABG showed hypoxia and hypercapnia. Ultrasound abdomen showed gross ascites. Erect x ray abdomen showed features of only as cites, no perforation. As patient developed progressive distention of abdomen and a significant fall in haemoglobin [16g% to 4g%], CECT abdomen was done which revealed moderate o significant ascites(HU:30-35), suggestive of hemoperitoneum with liver and spleen being normal. As citic tap was done and 1 litre of ascetic fluid was drained which was hemorrhagic and exudative in nature. Platelet count, packed cell volume and haemoglobin were monitored thrice daily and packed RBC's were given accordingly. A total of 5 packed RBC's were given, platelet count had become normal. Patient's condition gradually improved, haemoglobin improved and repeat ultrasound abdomen showed no free fluid in abdomen. Patient was discharged with vitals being stable. Patient was asked to follow up with repeat haemoglobin and platelet count and during follow up he was doing fine.

DISCUSSION

The clinical spectrum of dengue illness can range from asymptomatic infection to life-threatening dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS). There are various theories of the pathogenesis of DHF/DSS, such as increase in vascular permeability, perivascular edema, vascular endothelial injury and parenchymal necrosis with splenic hyperplasia.[4] Bleeding manifestations in dengue illness are multifactorial. A combination of (a) increased prothrombin time, (b) hemoconcentration, (c) platelet count of less than 50,000 cells/mm^3 and (d) elevated alanine transaminase (ALT) is known to be predictive for spontaneous bleeding manifestations.[3] Histamine release has also been postulated to cause a vascular leak[5]. Hemoperitoneum in dengue fever though rare can be life-threatening if not recognized early. Previous case reports on hemoperitoneum in dengue illness have been commonly associated with spontaneous rupture of the spleen.[3] There is only one case of hemoperitoneum due to dengue reported from Karnataka.[6] In our case, patient developed hemoperitoneum with abdominal viscera and coagulation profile being normal. Although up to 100 million cases of dengue fever are registered per year only a few reports of hemoperitoneum are seen in the literature.

CONCLUSION

The dengue illness is endemic in India and most of the hemorrhagic complications occur due to

low platelet count, but in our case there was a spontaneous peritoneal bleeding with platelet count and coagulation profile being normal. Regular monitoring of vital signs, regular haemoglobin estimation apart from platelet count monitoring are important in dengue fever for early detection of internal bleeding and associated complications. As per our knowledge, this is the second case report of dengue fever with hemoperitoneum with normal spleen and coagulation profile.

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