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AFEBRILE, NON THROMBOCYTOPENIC DENGUE: A RARE PRESENTATION.

General Medicine

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ABSTRACT

Dengue infection is a mosquito (Aedes aegypti) - borne viral infection of tropical region causing severe flu like illness. According to WHO, fever and thrombocytopenia are important diagnostic features of dengue. We report a 21 year old case of dengue who presented with abdominal pain, vomiting and yellowish discoloration of urine and eyes. She did not have any history of fever. She had normal blood counts including platelet count but had highly elevated liver enzymes. Afebrile and without thrombocytopenia dengue has been rarely reported in patients of dengue. Liver enzymes in dengue have also not been reported to be so highly elevated previously.

KEYWORDS

Afebrile dengue, thrombocytopenia, hepatitis

Introduction:

Dengue infection is a mosquito (Aedes aegypti) - borne viral infection of tropical region causing severe flu like illness. Due to increasing population, urbanization and lack of sanitation, proliferation of mosquitoes and subsequent dengue infections have increased rampantly. Currently, 50–100 million cases of dengue are diagnosed all over the world every year. Out of these, more than 500,000 are reported as cases of dengue hemorrhagic fever and dengue shock syndrome (DHF/DSS).[1] Dengue virus belongs to genus *flavivirus* and has four sero-types: DEN-1, DEN-2, DEN-3 and DEN-4.[2] Infection with one sero-type gives lifelong immunity to same sero-type and temporary immunity to other sero-types.[1] Multiple infection with more than one sero-type or secondary infections manifest more severely as compared to primary infections.[3] Hence, dengue is still a global public health threat demanding prompt diagnosis and management.

According to WHO, individuals should suspect dengue when a high fever (40°C/ 104°F) is accompanied by two of the following symptoms: severe headache, pain behind the eyes, nausea, vomiting, swollen glands, muscle and joint pains and rash. We report a case of dengue who presented with acute hepatitis only without any fever or thrombocytopenia.

Case report:

A 21 years old female presented to medicine OPD with complaints of non projectile vomiting since ten days, abdominal pain since seven days and yellowish discoloration of urine, sclera and skin since four days. The frequency of vomiting was five to six episodes per day, it was watery in consistency but was neither bilious nor blood stained. However, it got aggravated after meals. Abdominal pain was present all over the abdomen but was more in the right iliac fossa. It was dull-aching in nature, non radiating and did not vary with intake of food. There was no history of fever, rash, diarrhea, constipation, throat pain, joint pain, myalgia or urinary complaints. She did not give any significant past history. There was no previous history of jaundice. On examination patient was afebrile but had tachycardia. Her pulse rate was 110/minute, regular, normal in volume and force. She had a blood pressure of 80/52 mmHg in left arm in supine position. She had mild pallor and icterus but no edema or lymphadenopathy. She was conscious and anxious. No abnormality was detected on systemic examination.

Her blood investigations on admission revealed haemoglobin of 10.6 mg/dl, total leucocyte count 3500/cu.mm, platelets -2.2 lakhs/cu.mm. Urine routine microscopy was within normal limits. Serum bilirubin was 9.8 mg/dl while SGOT was 3906 IU and SGPT was 2528 IU. Peripheral smear for malarial parasite and widal both were negative. As the initial investigations were suggestive of hepatitis, she was tested for Hepatitis A, Hepatitis B, Hepatitis C and Hepatitis E all of which were also negative. HIV was also negative. Autoimmune liver disease was ruled out by ANA which was negative. No K-F rings were seen on ophthalmic examination with slit lamp ruling out Wilson's disease. USG of abdomen showed a few peripancreatic lymph nodes and hepatomegaly with mild ascites. Ascitic fluid examination was inconclusive.

CECT abdomen revealed hepatomegaly (16 cm), mild ascites, mild right sided pleural effusion and few lymph nodes in peripancreatic region which raised possibility of infective etiology. Hence, concentrating again on infections, dengue serology was done, which showed positive NS1 and IgM.

The patient had a hospital stay of 10 days during which she did not have a single episode of fever and her blood counts including platelet counts also remained constant. She received supportive treatment in the form of inotropes, IV fluids, antibiotics, antiemetics. Her liver enzymes were monitored regularly which showed steady improvement over the due course of her hospital stay. She was discharged after ten days in a stable condition with near normal liver enzymes.

Laboratory reports of the patient :

Investigation	19/8/17	23/8/17	27/8/17	30/8/17	5/9/17 (on follow up)
Haemoglobin(gm%)	10.6	10.3	10	10.1	10
Total WBC count (per cumm)	3500	4100	5000	5100	5200
Platelets (lakhs/cumm)	2.21	2.81	3.79	3.66	3.5
Total bilirubin (mg %)	9.8	11	11.7	8	3.31
Indirect Bilirubin (mg %)	4.2	5.4	4.5	3.5	0.85
Direct Bilirubin (mg %)	5.6	5.6	7.2	4.5	2.46
SGOT (IU/L)	3906	1043	533	92	40
SGPT (IU/L)	2528	1538	113	84	70

Hepatitis A, Hepatits B, Hepatitis C, Hepatitis E	Negative
Malarial parasite and Malarial antigen	Negative
WIDAL	Negative
USG Abdomen	Hepatomegaly with mild ascites
Alkaline Phosphatase	79 U/L (normal)
Serum Lipase	51 U/L (normal)
ANA	Negative
Slit lamp examination for K-F ring	No evidence of K-F ring on the cornea
CECT abdomen	Hepatomegaly (16 cm-cranio-caudal dimension), contracted gall bladder with peri gall bladder wall oedema, mild ascites, mild right sided pleural effusion and few lymph nodes in peripancreatic region

Discussion:

According to the WHO, patients of dengue typically have high-grade fever. The acute febrile phase may be accompanied by facial flushing, skin erythema, generalized body ache, myalgia, arthralgia and headache and usually lasts 2–7 days. Anorexia, nausea and vomiting are also common.[4,5] Abdominal pain or tenderness, persistent vomiting, fluid accumulation in body cavities, mucosal bleed, lethargy, restlessness and hepatomegaly >2 cm have been described as warning signs of severe dengue.

Thrombocytopenia has always been one of the criteria used by WHO guidelines as a potential indicator of clinical severity.[6,7] In the 2009 WHO guidelines, marked increase in hematocrit with rapid decline in platelet counts or a platelet count less than 150,000 per microliter of blood is reported as a criteria for severity of dengue infection.[4] Nevertheless, with rising disease burden, atypical manifestations have increased, which are missed most often due to lack of high index of suspicion leading to delay in diagnosis and management.

Our patient presented with abdominal symptoms only with severe hepatitis; liver enzymes raised to the level of >2000. She did not have fever or thrombocytopenia at any stage of her illness. Afebrile dengue has been rarely reported. Yoon *et al*. reported that in a dengue outbreak in Thailand 20% had afebrile presentation.[8] Although the exact pathobiology for the newly observed cluster of afebrile dengue is still unknown, it raises a concern regarding overemphasis of presence of fever in cases of dengue.

The WHO 2009 guidelines have also included thrombocytopenia as a supportive finding to fever for diagnosis of dengue. It has been suggested that platelet count progressively decreases from 3rd day to 7th day of illness and increase to normal levels around the 8th day of illness.[9] The mechanisms involved in thrombocytopenia and bleeding during dengue virus (DENV) infection is not fully understood. It is postulated that DENV directly or indirectly affects bone marrow progenitor cells by inhibiting the proliferative capacity of hematopoietic cells.[10] Previous reports have reported presence of thrombocytopenia in almost all patients of dengue. However, our patient did not have thrombocytopenia also.

Hepatitis with elevated liver enzymes has been reported as a common manifestation of dengue infection. It has been included as a warning sign in the WHO 2009 guidelines. However, our patient had highly elevated (> 2000 IU) liver enzyme levels which have not been reported previously.

Conclusion:

Dengue may present without fever or thrombocytopenia. One should suspect presence of dengue in patients with unexplained acute hepatitis even in absence of typical fever as early diagnosis and prompt management are the key for management of dengue and preventing its complications.

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