

Case Report

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Dengue Hemorrhagic Fever Presenting with Acute Abdomen in a Non- Government Tertiary Care Hospital in Bangladesh

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ABSTRACT

A 60-year-old diabetic and hypertensive post-menopausal lady, presented at a tertiary care Hospital in Dhaka, Bangladesh with severe abdominal pain in the right middle and lower abdomen, associated with oliguria for 1 day. She also gave history of having high grade fever and headache for 3 days, which subsided 2 days ago.

On examination, she was afebrile, mildly dehydrated, tachycardic (PR- 110/min), hypotensive (BP- 90/60 mm Hg), Tourniquet Test was positive. Her abdomen was tense and diffusely tender, especially in the right middle and lower parts, bowel sound was present, no organomegaly or lump was found.

S. Lipase was normal, Anti-dengue Antibody IgM and IgG were positive, CBC revealed Hemoglobin – 8.6 gm/dL, Hematocrit was raised- 52%, Platelet count was 16000/ microliter, Stool for OBT was negative, RBS- 16 mmol/L and Urine RME and ketone bodies was negative.

A provisional diagnosis of Dengue Hemorrhagic fever with suspected intra- abdominal bleeding was made and she was shifted to ICU.

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Introduction

Dengue fever is an infectious disease spread by the bite of an infected Aedes mosquito and is caused by one of the four antigenically different serotypes of the Dengue Virus (DENV 1-4) [1].

Approximately 3.9 billion people are currently at risk of DF on a global scale [2]. At present the case fatality rate of Dengue differs from country to country and can vary from less than 1% to as much as 15%. Clinically, the manifestations of DENV infection can range from mild acute undifferentiated febrile illness to classical Dengue Fever (DF), Dengue Hemorrhagic Fever (DHF), Dengue Shock Syndrome (DSS), Unusual Dengue (UD), or Expanded Dengue Syndrome (EDS) [3,4].

DHF has 4 major clinical manifestations- severe fever, hemorrhage, often with hepatomegaly, and in severe cases, circulatory failure with a positive Tourniquet Test [5]. Some of the infected individuals may develop hypovolemic shock due to severe plasma leakage.

Some chronic diseases were reported to trigger disease severity of dengue and DHF occurrence [6].

Case Summary

A 60-year-old post-menopausal lady who was a known diabetic and hypertensive on Tab Glimpiride 80 mg and Tab Olmesartan 20 mg once daily was admitted in the Medicine Department of a private tertiary care Hospital in Dhaka, Bangladesh with complaints of severe diffuse abdominal pain, more marked on the right middle and lower abdomen, associated with oliguria for one day. She gave history of high-grade fever with headache lasting for 3 days, which subsided 2 days back.

On examination, the patient was afebrile, mildly anemic, moderately dehydrated had a pulse rate of 110/minute, her BP was 90/60 mm Hg, Tourniquet Test was positive. Her urine output was about 50 ml/hour since admission.

Her abdomen was soft but diffusely tender, which was more marked in the right middle and lower parts. Murphy's sign was negative, Mcburney's point tenderness was absent, Bowel sound was present, there were no clinical signs of peritonitis. Cullens's

sign was negative as well.

Investigations Revealed

CBC- Hb- 8.5 gm/L, TC- 2800 / microliter, Hematocrit- 52%, Platelet count- 16000/microliter. Anti-dengue IgM and IgG antibodies were both positive, indicating past and present Dengue infection. RBS was 16 mmol/Litre, ECG was normal, S. lipase, blood urea, S. creatinine, and S. electrolytes were normal. S. Albumin was low (2.8 g/dL). Serial ECGs and cardiac markers were normal. Urine RME and urine for ketone bodies was normal, and stool for OBT was negative. Plain X-ray Abdomen did not indicate any evidence of perforation. CXR showed bilateral mild pleural effusion.

A provisional diagnosis of DHF with possible occult Intra-abdominal bleeding was made and she was transferred to ICU for further management.

She was given fluid challenge with 500 ml fluid over 30 minutes, which showed a slight rise in her BP to 100/70 mm Hg. Then she was transfused with 2 units of whole blood, following which BP rose to 120/80 mm Hg, and urine output also increased.

She was also given Injection PPI and Tramadol to relieve the pain, and soluble Insulin for diabetes control.

Repeat CBC the same day showed Hb- 10.0 gm%, WBC- 3000/ microliter, hematocrit- 48%, and platelet count- 20,000/ microliter. USG W/A revealed only mild ascites. Bedside USG and Echocardiogram did not reveal any abnormality.

The following day, she again complained of abdominal pain, but it was less severe than that of the previous day.

CBC showed Hb- 8.5 gm%, Hct- 52%, Total Count- 4000/ microliter, and platelet count -40,000/ microliter. Tourniquet Test was negative. There was no obvious hematuria, or melaena, and so it was obvious that there was internal bleeding going on as the hemoglobin level fell again.

PT and INR were normal. SGPT was twice the normal limit, which was consistent with her DF. Coagulation profile was normal.

An abdominal CT scan revealed a Rectus sheath hematoma measuring 5.6 cm on the right side with no extension into the prevesical space. A Surgical Consultation was taken and as she seemed to respond to conservative management, a decision was made to treat her conservatively with careful monitoring.

Management was continued with Oxygen, I/V fluids, and Blood Transfusion, and she remained hemodynamically stable with subsidence of pain, and maintenance of vital signs and normal hemoglobin levels. CBC parameters also improved.

She was discharged after 7 days after becoming completely stable hemodynamically and biochemically, and advised for follow-up with repeat CT Abdomen after 15 days.

Repeat CT Abdomen showed complete resolution of the left Rectus hematoma, and marked shrinkage in the size of the right hematoma. CBC, RBS, and BP were normal, and she was advised to come for another follow-up after another 15 days.

Discussion

Bleeding complications in patients with DHF results from the combination of thrombocytopenia, increased vascular fragility, increased fibrinolysis, and altered pro- and anti-coagulation factors balance [7]. Muscle hematomas are rare complications of DHF, the common sites of intra- muscular hematomas in the abdomen being the rectus sheath, psoas, and iliac muscles.

Rectus Sheath Hematomas (RSH) of anterior abdominal walls are caused by rupture of the superior or inferior epigastric artery or a tear of the rectus muscle. It is usually self-limiting in elderly females, but can sometimes cause an expanding hematoma turning into a hemoperitoneum [8].

Conservative treatment including intravenous hydration, blood transfusion, and strict monitoring are appropriate in most cases, as these hematomas are usually self-limiting, and are completely reabsorbed.

Surgical intervention or transcatheter arterial embolization is recommended only if conservative management fails [9].

Approximately 56-83% of patients are successfully managed with conservative management alone [10].

Conclusion

Abdominal pain is a common symptom (40%) in dengue infections and is more commonly associated with DHF. The commoner causes are hepatitis, acute acalculous hepatitis, acute pancreatitis, and colitis [11]. Other less common causes are acute appendicitis, peritonitis, subacute intestinal obstruction, intra-abdominal hematoma, splenic rupture etc.

It is important to assess the characteristics of the abdominal pain, associated symptoms, and location of abdominal tenderness to clinically differentiate between these causes.

The presence of co-morbidities like Hypertension and/or Diabetes, and re- infection have been proven to be strong predictors of complications. In most cases, conservative management has been found to be the most effective treatment methodology of RSH due to the self-limiting nature of RSH, especially if the patient is hemodynamically stable.

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