

## CASE REPORT

# Dengue presenting as a case of acute pancreatitis—A rare case report

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## Abstract

Atypical presentations may be presented with the common symptoms in Dengue. We, hereby, present a case of Dengue who was admitted in our hospital with the complaints of fever, upper abdominal pain, and vomiting, literally diagnosed as a case of acute pancreatitis.

## KEYWORDS

acute pancreatitis, atypical presentation, dengue, epidemic stage

## 1 | INTRODUCTION

Dengue fever, a viral infection, is very common in the tropical country like Bangladesh and very recently it has been spreading in all the WHO member countries.<sup>1</sup> Time to time Dengue outbreak occurred in many Latin American and tropical countries like Bangladesh. There were ups and downs in the case detection of Dengue from its first outbreak at 2000–2018 in Bangladesh and most of the Dengue cases were confined to the capital city of Bangladesh. In the year 2019, all the previous record of Dengue case detection was unexpectedly exceeded in Bangladesh. The

outbreak was not only confined to the capital city but also engulfed the whole country.<sup>2–4</sup> Moreover, the number of the Dengue case detection was subsequently increasing amidst COVID-19 pandemic condition in Bangladesh.<sup>5</sup>

Dengue virus has four specific genetic variants (DEN 1, 2, 3, and 4) under the family of Flaviviridae group. Transmission of the Dengue virus occurs from human to human through the bites of *Aedes aegypti* and *Aedes albopictus* mosquitoes.<sup>1</sup> Dengue infection can be asymptomatic or symptomatic and symptomatic Dengue infection may be presented as classical Dengue fever, Dengue hemorrhagic fever, and Dengue shock syndrome.<sup>6</sup> After

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an average incubation period of 5–6 days, the common presentations of Dengue infection are abrupt onset of high-grade fever with chills, intense headache, generalized bodyache, rash, myalgia, arthralgia, retro-orbital pain, anorexia, fatigue, abdominal pain, dragging pain in the inguinal region, sore throat, and generalized weakness.<sup>7</sup> However, some of the atypical presentations including acute hepatitis, acalculous cholecystitis, encephalitis, cardiac conduction abnormalities, acute respiratory distress syndrome, disseminated intravascular coagulation, acute pancreatitis, myositis/rhabdomyolysis are also documented in Dengue infection.<sup>8</sup>

We are, hereby, reporting a case of Dengue patient who presented with acute pancreatitis without having its other obvious cause.

## 2 | CASE PRESENTATION

A 55-year aged farmer, normotensive, non-diabetic, non-alcoholic, and ex-smoker presented with the complaints of high-grade fever, upper abdominal pain, and vomiting for 3 days. Initially, fever was high grade continued type without chills and rigor. Fever was associated with generalized body pain more marked at retro-orbital and sacral area. However, fever was not associated with sore throat, cough, short of breathing, headache, and burning sensation of micturition. He had also no recent travelling history anywhere. He also complained sudden onset, constant, moderate–severe upper abdominal pain which radiated to the back side of his body. His upper abdominal pain was aggravated by taking food but relieved by leaning forward and sometimes by antispasmodic medications. His bladder and bowel habits were normal; there was no bleeding per oral and anus. He had no similar attack of upper abdominal pain and previous history of hospitalization for any reason. He did not take any offending medications prior to this event. Abdominal pain was associated with vomiting for several times. There were only food particles but no bleeding per se and vomiting were mostly post-meal.

On admission, his physical examination revealed pale looking, average body build, pulse-82 bpm, blood pressure-105/65 mm of Hg, temperature-102°F, SpO<sub>2</sub>-97% on room air but there were no anemia, jaundice, cyanosis, oedema, clubbing, and lymphadenopathy. His gastrointestinal system examination revealed moderately severe diffuse tenderness at the epigastrium, upper border of liver dullness at right fifth intercostal space along the mid-clavicular line and presence of bowel sound but no organomegally. His other systems examination revealed no abnormalities. With above all of his clinical features and examination findings made us to think him about as a

case of Dengue fever with acute pancreatitis in the current dengue epidemic phase of Bangladesh.

First day of his admission, the investigation findings were platelet count-83,000/cumm, hematocrit- 49.5%, random blood sugar-6.44 mmol/L, S creatinine-1.1 mg/dL, S bilirubin-0.93 mg/dL, SGPT-50 U/L, S Amylase-430 U/L, S Lipase-68 U/L, positive NS1 antigen for Dengue and negative IgM, and IgG antibody for Dengue. There were mild ascites, right sided mild pleural effusion, small right renal cortical cyst (16×15 mm) and mild hepatomegaly in his ultrasonography of abdomen but normal ECG and plain X-Ray abdomen in erect posture with both dome of diaphragm (Table 1). On the second day of his admission, CT scan of Abdomen had shown features suggestive of acute pancreatitis, mild hepatomegaly, mild ascites, right sided mild pleural effusion, and right renal small cortical cyst (Figure 1).

Our patient was treated conservatively with intravenous fluid, ceftriaxone, proton pump inhibitor, and opioid analgesic. On the second day of his admission, his S Calcium level revealed 1.70 mmol/L which corrected by intravenous Calcium. On the same day we had done all other investigations including fasting triglyceride which was 530 mg/dL. A serial platelet count and hematocrit were done which were 80,000/cumm and 44.6% on fifth day; and 204,000 and 44.6% on ninth day of his disease process, respectively (Table 1). His clinical, hematological and biochemical parameter were gradually improved without any uneventful situations. We discharged the patient on the tenth day of his disease process without any uneventful condition. We followed up him 7 days after discharge with an ultrasonography of hepato-biliary system where we did not find any complications including pseudo cyst in pancreas.

## 3 | DISCUSSION

Acute pancreatitis is an inflammatory condition of the pancreatic parenchyma having various causes including viruses. The most common viruses causing acute pancreatitis are hepatotropic virus, Coxsackie virus, cytomegalovirus (CMV), human immunodeficiency virus (HIV), herpes simplex virus (HSV), mumps, varicella-zoster virus, etc.<sup>9</sup> Other viruses including Dengue and Adenovirus are also sometimes reported as a cause of acute pancreatitis.<sup>9–13</sup> However, acute pancreatitis can be diagnosed by the presence of at least two out of three points based on the Atlanta classification and definition by an international consensus: (a) abdominal pain suggestive of acute pancreatitis, (b) lipase or amylase more than three times higher than the normal upper limit, and (c) sonography or radiography findings pertinent with acute pancreatitis.<sup>14</sup>

TABLE 1 Investigation profile of our patient.

Serial no.	Name of investigation	Findings
1	CBC (24/09/2022)	WBC count: 8800 (N-46%, L-44%, M-09%) Total Platelet count (TPC): 83,000 Hematocrit (HCT): 49.5% Hemoglobin (Hb): 15.9 gm/dL ESR: 10 mm in 1st hour
2	SGPT (ALT) (24/09/2022)	50 U/L
3	S. Creatinine (24/09/2022)	1.1 mg/dL
4	S. Bilirubin (24/09/2022)	0.93 mg/dL
5	RBS (24/09/2022)	6.44 mmol/L
6	S Amylase (24/09/2022)	730.0 U/L
7	S Lipase (24/09/2022)	68.0 U/L
8	Dengue antigen NS1 (24/09/2022)	Positive
9	Dengue antibody IgM and IgG (24/09/2022)	Negative
10	Chest X-Ray P/A view (24/09/2022)	Normal finding
11	Ultrasonography of whole abdomen (24/09/2022)	Mild ascites Right sided mild pleural effusion Mild hepatomegally Adenomyometosis of gall bladder
12	CBC (25/09/2022)	WBC count: 7800 (N-44%, L-41%, M-11%) Total platelet count (TPC): 80,000/cumm Hematocrit (HCT): 44.6% Hemoglobin (Hb): 14.7 gm/dL ESR: 15 mm in 1st hour
13	S Albumin (25/09/2022)	4.3 gm/dL
14	S Electrolytes (25/09/2022)	Na <sup>+</sup> 139 mmol/L, K <sup>+</sup> 3.4, CL <sup>-</sup> 100 mmol/L
15	Fasting lipid profile (25/09/2022)	Total cholesterol—220 mg/dL HDL—42 mg/dL LDL—72 mg/dL Triglyceride—530 mg/dL
16	CRP (25/09/2022)	6.50 mg/L
17	Serum lactate dehydrogenase (25/09/2022)	130 IU/L
18	S Calcium level (25/09/2022)	1.70 mmol/L
19	CT scan of whole abdomen (non contrast) (25/09/2022)	Pancreas: Swollen in size measuring about 40 mm with irregular margin Mild hepatomegaly Mild ascites Right sided mild pleural effusion Left renal small cortical cyst
20	CBC (26/09/2022)	WBC count: 6200 (N-41%, L-49%, M-08%) Total Platelet count (TPC): 71,000/cumm Hematocrit (HCT): 42.3% Hemoglobin (Hb): 13.9 gm/dL
21	S Calcium level (26/09/2022)	2.17 mmol/L
22	CBC (27/09/2022)	WBC count: 6600 (N-43%, L-45%, M-07%) Total Platelet count (TPC): 94,000/cumm Hematocrit (HCT): 43.7% Hemoglobin (Hb): 14.3 gm/dL
23	CBC (28/09/2022)	WBC count: 7900 (N-52%, L-42%, M-05%) Total platelet count (TPC): 133,000/cumm Hematocrit (HCT): 44.2%
24	CBC (29/09/2022)	Total platelet count (TPC): 181,000/cumm Hematocrit (HCT): 41.2%

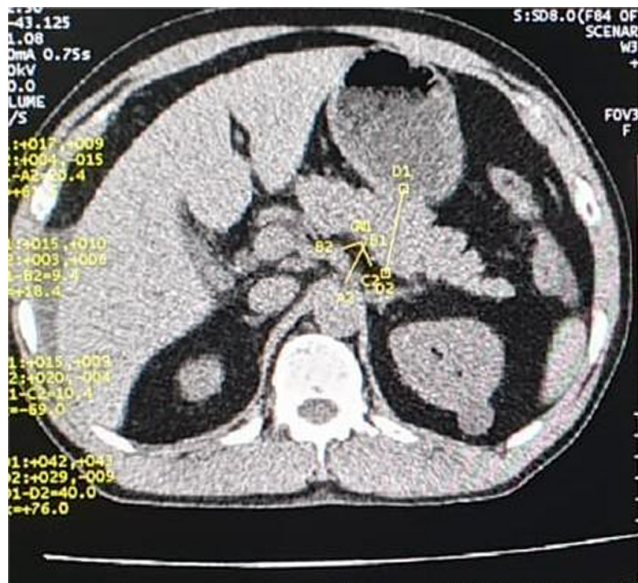


FIGURE 1 CT Scan of abdomen showing bulky pancreas.

Therefore, our Dengue patient was diagnosed as a case of acute pancreatitis by the presence of clinical symptoms and radiographic finding (CT scan findings) in presence of Dengue. Though the exact mechanism of acute pancreatitis in Dengue is unknown, but the possible hypothesis can be direct invasion of the virus itself leading to inflammation and destruction of pancreatic acinar cell or an autoimmune mechanism to pancreatic islet cells by Dengue viral infection.<sup>15</sup>

In our case, we excluded all the possible causes of acute pancreatitis including alcohol, gall stone, and any offending drugs. However, we noticed high triglyceride level (530 mg/dL) in our patient. But a recent study supported by the other studies and data from European population study had shown that acute pancreatitis is likely occurred triglyceride more than 1000 mg/dL.<sup>16</sup> Therefore, this is pointed toward our diagnosis as acute pancreatitis due to Dengue virus. Finally, our patient was recovered by conservative treatment without having any devastating complication.

## 4 | CONCLUSION

Acute pancreatitis is not a very common presentation in Dengue and a very few cases were reported regarding this issue previously. Attention should be paid to common features as well as the atypical presentations of Dengue. High index suspicion of diagnosis to atypical presentation of Dengue may require for saving lives. Development of any complications including acute pancreatitis in Dengue may complicate the treatment protocol and endanger the patient's life. Therefore, prompt diagnosis and commencing treatment of acute pancreatitis in Dengue fever may reduce the mortality and morbidity.

## AUTHOR CONTRIBUTIONS

**Goutam Kumar Acherjya:** Conceptualization; data curation; formal analysis; investigation; methodology; project administration; supervision; validation; visualization; writing – original draft; writing – review and editing. **Keya Tarafder:** Conceptualization; data curation; project administration; writing – original draft; writing – review and editing. **Md. Abu Sayeed:** Formal analysis; investigation; visualization; writing – review and editing. **Goutam Kumar Ghosh:** Formal analysis; validation; visualization; writing – review and editing. **Md. Jahangir Hossain:** Formal analysis; validation; visualization; writing – review and editing. **Shahadat Hossain:** Data curation; validation; visualization; writing – review and editing. **Mohammad Ali:** Formal analysis; validation; visualization; writing – review and editing. **Md. Alamgir Kabir:** Formal analysis; validation; visualization; writing – review and editing. **Rajashish Chakraborty:** Formal analysis; validation; visualization; writing – review and editing.

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## CONFLICT OF INTEREST STATEMENT

The authors have no conflict of interest to declare.

## CONSENT

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy which was submitted during first submission of the article.

## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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