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Case Report

Pancreatitis with pancytopenia: are we missing a common diagnosis?

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ABSTRACT

Acute pancreatitis with pancytopenia is a rare unreported complication of dengue non-hemorrhagic fever. A 16-year-old girl came to the emergency with complaints of loose stools and vomiting with pain abdomen and mild fever the previous day. She was diagnosed to have acute pancreatitis, which evolved into pancytopenia. She was then diagnosed with dengue fever. She was successfully managed conservatively nil orally, with intravenous fluids therapy as per the dengue protocol, timely investigations and watchful management. Acute pancreatitis with pancytopenic blood picture must point the clinician to underlying causes like dengue in endemic areas.

Keywords: Acute pancreatitis, Pancytopenia, Dengue fever

INTRODUCTION

Acute pancreatitis is a significant gastrointestinal pathology requiring hospital admissions and timely intervention for quality patient care. While the diagnosis primarily directs the clinician to immediate management, it is prudent to closely analyze the blood indices. Our case study showed an evolving pancytopenia in acute pancreatitis which on further investigation led us to the root cause.

CASE REPORT

A 16-year-old girl moderately built and nourished woman came to the emergency with complaints of loose stools and vomiting with pain abdomen. She had mild fever the previous day, which subsided with paracetamol. She did not have any other comorbidities, no previous admissions, no allergies, was a non-alcoholic, no history of similar complaints in family suggestive of food poisoning. Her vitals showed temperature of 98.9^0 F, pulse rate of 98/min, blood pressure of 90/60 mm Hg, respiratory rate of 20/min, saturation was 98% at room air. There were signs of some dehydration with dry mouth and fatigue. She had pallor; however, no icterus, clubbing, cyanosis or pedal edema were noted. The patient was diagnosed with probable acute gastroenteritis and started on IV fluids and empirical antibiotics.

However, in spite of treatment with antiemetics, her vomiting persisted with mild epigastric pain abdomen. Investigations revealed low leucocyte count of 2000/microliter hemoglobin levels were 10.2 g/l, platelet count was 1.34 lakh/microliter. In view of persisting symptoms, serum lipase and amylase levels were sent. Serum lipase level was elevated to 138 U/l and serum amylase was 29 U/l. Ultrasound scan of the abdomen revealed a bulky pancreas suggestive of pancreatitis. Patient was kept nil orally and treatment was continued.

Although vomiting stopped and pain abdomen subsided, patient continued to be fatigued and blood pressure remained at 90/60 despite IV fluid supplementation. Repeated blood counts the subsequent day in view of follow up of low levels, showed persistent low leucocyte count at 2000, platelets further dropped to 47000/microliter. Dengue serology was sent, showed positive IgG, and IgM antibodies, NS1 Ag was negative. A summary of the investigation reports has been tabulated in Table 1.

Table 1: Investigation reports.

Day of admission	Platelets	Total leucocyte count	Total neutrophil count	Hemoglobin	Other investigations
Day 1	1.34 lakh	2000	720	10.2	RBS 128 mg/dl, serum urea 29.6 mg/dl, serum creatinine 0.9 mg/dl, Wida1 negative titers, serum sodium 133 mmol/l, serum potassium 3.9 mmol/l, serum chloride 102.3 mmol/l
Day2	47000	2000	940	11.3	Serum lipase 138 U/l, serum amylase 29 U/l, dengue IgM reactive, IgG reactive NS1 antigen non-reactive
Day 3	28000	5000	1750	13	Serum lipase 265 U/l
Day 4	52000	7500	4600	12.7	
Day 5	1.12 Lakh	10200	7200	12.1	

Patient was treated as per dengue protocol. Platelet count dropped to lowest level of 28000 on day 3, before rising to 52000 on day 4, then to 112000 on day 5. Patient recovered well by 5th day and was discharged at 7th day of admission.

DISCUSSION

Acute pancreatitis is defined as inflammation of the pancreas. It is one of the leading causes of admission among gastrointestinal cases. The mortality due to pancreatitis ranges from 3% in mild cases to about 20% in necrotic pancreatitis.[1] According to the revised Atlanta classification, at least 2 of 3 criteria should be fulfilled to make a diagnosis[2]: A lipase or amylase level is three times the normal upper limit, abdominal pain is consistent with pancreatitis and abdominal imaging is consistent with acute pancreatitis.

Common etiologies include alcoholism, hypertriglyceridemia, gallstones. Viral etiologies listed are coxsackie, cytomegalovirus, echovirus, Epstein-barr virus, hepatitis A/B/C, HIV, mumps, rubella, and varicella.[3]

Dengue virus is a rare cause of acute pancreatitis, prevalent in endemic regions like South east Asia including India. Dengue fever typically presents with pain abdomen, typically due to hepatitis and cholecystitis (36.4% and 16.4%), enteritis, gastritis; and rarely due to pancreatitis in about 14.5% and appendicitis in 5.45% patients.[4] Few studies describe pancreatitis complicating acute haemorrhagic dengue fever.[5-8] A "PubMed" search for pancreatitis with dengue done by Sharma et al showed that 35.3% of patients reported in such studies had mild disease, 29.4% had moderately severe and 35.3% had severe pancreatitis.[5] Thus, early identification of this condition and its etiology is crucial for timely management, and for prognosticating the outcome.

Our case study entails a patient presenting with typical pancreatitis, with pancytopenia. She did not have the regular signs of dengue fever. However, a serial workup of the pancytopenia led us to the complete diagnosis of etiology being non-haemorrhagic dengue fever.

Isolated cases of pancytopenia in pancreatitis were noted in a study by Han et al wherein the patient was diagnosed with hemophagocytic syndrome, another study by Sarangpani et al showed acute autoimmune pancreatitis presenting with pancytopenia.[9,10] A study by Deshpande et al describes dengue as the second most common infective aetiology in India to cause pancytopenia after malaria. The probable cause may be due to suppression of the bone marrow as a result of viral replication during the acute phase however the exact aetiology remains elusive.[11,12]

No cases have been found in literature highlighting pancytopenia in acute pancreatitis in non-haemorrhagic dengue fever. Dengue fever may present in any clinical form and must be actively screened for in endemic areas. Acute pancreatitis with pancytopenia must point the clinician to an underlying cause, such as the dengue fever.

CONCLUSION

We would like to bring to the clinicians notice that dengue fever masquerades in several atypical forms; acute pancreatitis being a rare presentation. While acute pancreatitis is usually associated with dengue haemorrhagic fever, it may also occur in dengue non-haemorrhagic fever. A complete diagnosis may be overlooked if one does not closely observe all clinical and laboratory parameters, which is vital to prognosticate and manage the patients. In retrospect, acute pancreatitis with thrombocytopenia and leukopenia must point towards dengue fever.

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