

Case Report

Acute Pancreatitis: a late complication of Dengue fever

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ABSTRACT

Acute pancreatitis following viral infection is rare in children. Acute pancreatitis complicating viral infections has been described in the form of isolated case reports and small series. The commonly implicated viral infections have been coxsackie virus, hepatitis viruses, mumps, varicella, herpes simplex and cytomegalovirus. However, the etiopathogenesis of pancreatitis in viral infections remains unclear. Also, the natural history of such pancreatitis has not been adequately studied. Here we present a case of acute pancreatitis following dengue infection.

Keywords: Dengue fever, Pancreatitis

INTRODUCTION

Even in the modern era of medicine, presentation of an acute abdomen remains a challenge for the surgeon. Though acute pancreatitis (AP) is a common cause of acute abdomen, AP of infective etiology is relatively uncommon.¹ Dengue fever (DF) is a common cause of febrile illness in Eurasia and is often accompanied by abdominal symptoms.² Dengue is a mosquito-borne viral infection endemic in tropical and subtropical continent. World health organization (WHO) currently estimates there may be 50 = 100 million dengue infections worldwide every year with over 2.5 billion people at risk of dengue. An estimated 500 000 people with severe dengue require hospitalization each year, a large proportion of whom are children.³ In 2012, an outbreak occurred in India during which a total of 47,029 dengue fever (DF) cases and 242 deaths were reported, three times higher than the previous year.⁴ Severe dengue (dengue hemorrhagic fever-DHF and dengue shock syndrome-DSS) is a potentially deadly complication due to plasma leaking, fluid accumulation, respiratory distress, severe bleeding, or organ impairment. Various common complications of severe dengue are myocarditis, encephalitis, acute motor weakness, Guillane-Barre like

syndrome, acute liver failure, lupus erythematosus, hemophagocytic syndrome, acute kidney injury, acute pancreatitis and so on.⁵ The increase spread of disease has led to occurrence of more atypical presentations which may be potentially serious and result in increased morbidity and mortality. It is critical that physicians who monitor dengue illnesses, should be aware and alert to these atypical manifestations.⁶

Here we present an adolescent boy who suffered from dengue fever and developed acute pancreatitis as a late complication.

CASE REPORT

11-year-old male boy was admitted for fever for one week. He had occasional vomiting and abdominal pain. On examination he was found to have low grade fever, periorbital puffiness and tender hepatomegaly. Vitals were stable. Investigation revealed leukopenia, thrombocytopenia. Liver enzymes were minimally elevated. USG revealed minimal ascites and hepatomegaly. Dengue IgM and IgG were elevated. He was managed conservatively and improved. He was discharged on 4th day. About ten days after discharge he

came to op with severe abdominal pain and occasional vomiting.

He was admitted as acute abdomen. The pain was minimally relieved by leaning forward. Examination revealed severe epigastric pain and bowel sounds were sluggish. An empirical diagnosis of acute pancreatitis was made. On investigation, serum amylase was 900u/l, lipase was 670 u/l and calcium was 9.8 mg/dl. CT scan showed acute pancreatitis with grading of 4/10.⁷ HbsAg, anti HAV antibody were negative.

The boy was managed conservatively and showed improvement and discharged. Suspecting dengue viral infection to be a rare cause of acute pancreatitis, a repeat serology was ordered. That showed a raise in IgG levels by 4fold. At present the boy is under follow up to see for the development of chronic pancreatitis.

DISCUSSION

The viral infections that can cause pancreatitis are hepatitis B, hepatitis A, varicella, dengue, mumps. Etiopathogenesis of acute pancreatitis in viral infections is unclear and so is the long-term prognosis of the patients.⁸

The exact pathogenesis of pancreatitis in dengue is not known. It could be due to the direct invasion of virus causing inflammation and destruction of pancreatic acinar cells, pancreatic damage due to dengue shock or auto immune response to islet cells and development of edema of the ampulla of vaster and obstruction to outflow of pancreatic fluid.⁸

Pancreatitis in any infectious disease could be

- Definite pancreatitis if there is surgical or radiological evidence of pancreatitis
- Probable pancreatitis if there is biochemical evidence in the form of three-fold increase in serum amylase and lipase and characteristic symptoms or
- Possible pancreatitis if there is only a symptomatic biochemical evidence.⁸

Criteria suggested for associating pancreatitis with infective etiology include

- Finding organism in pancreas or pancreatic duct which is 'definitive criteria'
- Culture of organism from pancreatic juice or blood or serologic evidence combined with characteristic clinical or epidemiological setting, which is 'probable criteria' and culture of organism from other body sites or serological evidence of infection, which is 'possible criteria'.⁹

Present case fulfills the probable criteria of acute pancreatitis in dengue infection showing fourfold

increase in IgG titre. HbsAg and anti HAV antibody were negative and there was no clinical evidence of varicella and mumps.

So far acute pancreatitis occurring during the critical phase of dengue has been reported.¹⁰

Only one case report on 16-year-old girl who presented with acute pancreatitis, 3 weeks following dengue has been reported.⁸

CONCLUSION

If a child presents with acute abdomen following dengue fever, the rare complication of acute pancreatitis should be thought of. Early recognition and treatment of pancreatitis would prevent the morbidity and mortality.

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