Acute Abdomen Due to Acute Pancreatitis – A Rare Presentation of Leptospirosis

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Abstract

Even though, Leptospiral infection is not uncommon, it can have different rare presentations. Acute pancreatitis is one such rare gastrointestinal manifestation of acute pancreatitis. Apart from the typical clinical features; elevated serum lipase or elastase-1, along with radiological evidence and positive leptospiral serology confirms this rare association. ©

INTRODUCTION

Leptospiral infection is a worldwide zoonotic disease prevalent in India, especially during the rainy season. The clinical manifestations vary from a mild asymptomatic illness to a severe fulminant hepatorenal failure. Apart from the usual presentations, Leptospirosis may sometimes present with unusual systemic manifestations. Acute pancreatitis is one such rare gastrointestinal presentation of Leptospirosis.

Here, we are reporting one such rare manifestation of Leptospirosis, from our institution.

CASE REPORT

A sixty three year old farmer was admitted with fever, body ache and diarrhea of three days duration. He was a chronic alcoholic and smoker. There was no history of hypertension, diabetes, ischemic heart disease or other chronic ailments.

On admission, the patient looked ill. He had a temperature of 39°C and jaundice. There was bilateral conjunctival congestion and pedal edema. The patient had a pulse rate of 100 beats/minute and a B.P of 100/60 mmHg in the right upper limb. The examination of the abdomen revealed abdominal distension, diffuse tenderness, guarding of all quadrants, hepatomegaly of 2 cm, and reduced bowel sounds. There was no free fluid elicitable by shifting dullness. Respiratory system examination showed equal breath sounds in all lung fields and crepitations in the left infra-axillary region. There was no evidence of hepatic encephalopathy or any cardiovascular complications.

Routine blood investigations showed a normal hematocrit, elevated total blood count (12500/mm³; P80, L20) and ESR of 40mm/1st hr. On the day of admission, the patient had a platelet count of 45,000/mm³, blood urea of 158mg and a serum creatinine of 2mg. The serum bilirubin was 5.9mg, AST 92IU, ALT 52IU, ALP 408 U, the serum amylase was 1176U/L (normal – up to 122U/L) and the serum lipase was 412U/L (normal up to 60U/L). The patient had high titers of IgM Leptospiral antibody (ELISA) detected on the tenth day. Urine and stool examination was normal (Fig. 1).

X-ray of the abdomen showed dilated intestinal loops. Ultrasound of the abdomen detected mild hepatosplenomegaly with bilateral minimal pleural effusion and consolidation of the left lower lobe. CT of abdomen showed a bulky, edematous pancreas with mild hepatosplenomegaly.

Course and Treatment

The patient improved dramatically with supportive measures and intravenous crystalline penicillin. The patient was given intravenous crystalline penicillin in a dose of 20...
lakh units 6th hourly for seven days. Injection Octreotide 50 micro-grams IV infusion was given 8th hourly for three days. He was given injection Pantoprazole 40mg daily. He was kept nil-by-mouth for 3 days and was on fluid resuscitation under close observation. His kidney and liver functions and the hemodynamic parameters were also closely watched. The fever subsided; abdomen became soft with normal bowel sounds. The renal function and liver function improved and the platelet count was elevated. The findings of consolidation also improved clinically and radiologically. However, the amylase (487 u/L) and lipase (214u/L) was remaining high even after recovering from hepatorenal involvement.

Considering the abrupt presentation of this sixty three year old farmer- who was previously in good health; with fever, jaundice and body ache; raised blood urea, creatinine, liver enzymes, serum amylase and serum lipase; all subsiding to normal values with medical treatment; the possibility of acute pancreatitis caused by probable leptospiral infections is to be considered. Our patient had features of hepatorenal involvement associated with elevated serum amylase and lipase and also high titers of Leptospiral IgM antibody.

**DISCUSSION**

Leptospira mediated injury causes a vasculitis of the capillaries and thrombocytopenia. The common manifestations of Leptospiral infection are anicteric hepatitis, febrile jaundice with raised serum bilirubin, acute renal failure, Weils syndrome (hepatorenal form) and septic shock with multiple organ failure.

Alimentary manifestations like acalculous cholecystitis, acute peritonitis, and acute pancreatitis are rare. There are very few cases of pancreatitis due to Leptospirosis reported in the literature. Other unusual manifestations of Leptospirosis include cerebral vasculitis and stroke syndrome; GBS; myocarditis and DIC.

Spectrum of acute inflammation of pancreas varies from edematous pancreas to necrotizing pancreatitis. The former one is mild and self-limited, whereas the latter is severe. Necrosis of the pancreatic tissue correlates with the severity of the attack and the clinical manifestations. Auto-digestion of the pancreas, caused by proteolytic enzymes which are activated by various stimuli like toxins, ischemia, infection, trauma and drugs are responsible for acute pancreatitis. Among the causes of acute pancreatitis, the common ones are alcohol, biliary disease, post-ERCP and idiopathic. Rarely, Leptospirosis is also known to cause acute pancreatitis.

The exact mechanism of acute pancreatitis in Leptospirosis is not well understood. The small vessel vasculitis and ischemic injury leading to activation of proteolytic enzymes and auto-digestion is the possible mechanism. Hyperamylasemia in Leptospirosis even without pancreatitis is observed because of renal failure and inactivation of reticuloendothelial system of liver which impede the clearance of amylase. Lipase is known to have high specificity (97% - 99%) for the diagnosis of pancreatitis and is not significantly affected by change of glomerular filtration rate. Concomitant rise of lipase, elastase-1, along with radiological evidence of inflammation of pancreas will confirm the diagnosis of acute pancreatitis in Leptospirosis.

With every monsoon, there are several cases of Leptospirosis in our locality. Patients with shock, DIC and multi organ failure are having poor prognosis and higher mortality. Our experience with pancreatitis in Leptospirosis is limited. However reviewing literature, the fatal cases with pancreatitis were having hemorrhagic features and multi-organ failure.

**CONCLUSION**

We report a case of probable Leptospirosis with clinical, laboratory and imaging evidence of acute pancreatitis.

**REFERENCES**