the esophageal or aortic hiatus following rupture of pancreatic duct posteriorly into the retroperitoneum.[3] These pseudocysts cause compression symptoms which include breathlessness, chest pain, back pain, cardiac tamponade and cough.[1,4]

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Co-existence of *Salmonella typhi* associated hepatitis and pancreatitis

Enteric fever is predominantly a tropical disease caused by *Salmonella typhi* and *paratyphi*.

Enteric fever commonly presents with altered liver function tests, but Salmonella is a rare cause for acute hepatitis presentation. Also Salmonella lead to acute pancreatitis with rhabdomyolysis leading to renal failure.[1] These are the uncommon presentations of a common disease in our part of the world. Salmonella pancreatitis[2] will not respond to usual line of conservative management, but need specific antimicrobial treatment in addition to aggressive supportive management. We report an otherwise immunocompetent adult male who presented with acute hepatitis with coagulopathy, acute pancreatitis along with rhabdomyolysis, renal failure and delirium which finally turned out to be a case of *Salmonella typhi* causing enteric fever.

Case Report

A 27 year old male, social drinker with history of recent travel and stay at a distant place, was admitted with history of severe abdominal pain suggestive of pancreatitis of 5 days duration along with non bilious vomiting and multiple episodes of loose stools without blood. He also reported to have severe myalgia along with low grade fever and anorexia. No history of recent ethanol intake or toxins, but recent intake of paracetamol of 1500 mg/day for 3 days along with amoxicillin and pantoprazole for 3 days prior to admission. On examination, he was delirious, dehydrated, mildly icteric with coated tongue with pulse rate of 102 beats per minute with Blood pressure of around 120/70 mm Hg with axillary temperature of 100^0F. Abdominal examination showed enlarged liver 2 cm below costal margin with traube's space dull and having diffuse abdominal tenderness with no rebound tenderness. On evaluation, he had bicytopenia initially and later pancytopenia with liver function tests

showing acute hepatitis picture with SGOT/PT 417/1265 with PT INR 1.75 with serum amylase and lipase more than 3 times the upper limit of normal (ULN) (>1000). He had high creatine phosphokinase 4182 (>5 times ULN) with urine myoglobin positive. He had pre renal failure (urea:150; creatinine:2.3) with LDH 1772 with ALT: LDH ratio 0.7. Serological investigations for acute hepatitis were negative for Hepatitis A, B, C E, HSV, CMV, EBV, leptospira, Dengue and Scrub, but Widal came as positive 1:400 for O and H antigens. In the meantime, on the 3rd day blood culture came positive for Salmonella typhi with urine and stool culture showing no growth. Radiographic examination of Abdomen showed no evidence of perforation with USG abdomen showed mild hepatosplenomegaly with bulky pancreas. CT scan of abdomen showed acute interstitial pancreatitis with no local complications. CT scan of brain and CSF study were normal. Bone marrow study showed evidence of bone marrow suppression. Initially the patient was started on Inj. Piperacillin and tazobactam but he continued to be febrile. After getting blood culture reports, he was started on injectable ceftriaxone and ciprofloxacin (culture sensitive antibiotics) and after 3 days he became afebrile and made dramatic improvement. On discharge, he was fully conscious oriented, ambulant, hematological and biochemical parameters almost normalized.

Discussion

The documented incidence of Salmonella hepatitis in studies from Thailand varies from <1% to 26% of patients.[3] The probable associated factors for enteric hepatitis are virulence of the organism, delayed treatment and poor health of patients. The proposed mechanisms for Salmonella hepatitis are multifactorial like endotoxin, local inflammatory and or host immune reaction.[3] The peak liver function test value for reported cases were bilirubin 3.6mg/dl with AST 792 IU and ALT 1247 with ALT:LDH ratio <9 similar to that of our case.[4] The interesting fact is that most of the reported cases of rare complications are among young adults, similar to that of our case, probably because they did not receive adequate treatment or due to robust immune reaction.[1] Salmonella pancreatitis is also a rarely reported complication with incidence not clearly reported in literature. In a case report from Coimbatore Kadappu et.al,[2] they reported 2 cases of Salmonella pancreatitis. Khan et al 1reported cases of Salmonella pancreatitis with rhabdomyolysis and renal failure and also other studies quoting the same. Our patient had a rare coexistence of acute hepatitis with coagulopathy and acute pancreatitis, which was reported earlier in one of the patients from Korea. (Baek et al) 5 [5]. Our patient also had delirium probably could be attributed as typhoid delirium (normal CT brain and CSF findings) and showed improvement only when he became afebrile irrespective of correction of metabolic derangements (hypocalcemia and hypomagnesemia).

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