

CASE REPORT

ACUTE PANCREATITIS IN A PATIENT WITH ENTERIC FEVER AND NORMAL LIPASE LEVELS; CASE REPORT

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ABSTRACT

Pancreatitis represents an extremely rare complication of typhoid fever. Enteric fever is a common infectious disease in developing countries like India. A 45-year old male patient presented with fever, abdominal pain and multiple episode of vomiting and was diagnosed as having enteric fever complicated by acute pancreatitis. The diagnosis of acute pancreatitis should be considered even with normal serum amylase and lipase levels, but normal serum lipase level in acute pancreatitis is extremely rare. There are very few case reports in the world which portray these distinctive associations. Herein, we present a case of acute pancreatitis with normal serum lipase levels along with -enteric fever.

INTRODUCTION

Pancreatitis is an –immensely sparse manifestation of enteric fever. ¹Gastrointestinal complications of enteric fever include intestinal haemorrhage acute pancreatitis, acute cholecystitis, splenic rupture, hepatic abscess and hepatitis. ² Serum amylase and lipase levels threefold or more than normal are seen in acute pancreatitis and in the appropriate clinical setting, used for diagnosis. ³ Normal serum amylase levels have been reported in some cases of acute pancreatitis, but serum lipase levels are usually elevated. ⁴ These unusual presentation have to be kept in mind in merchandising with a case of fever, abdominal pain with vomiting and normal lipase level in an endemic country like India particularly if auxiliary suggestions are present.

CASE REPORT

A 45 year male was admitted in medical ward with complaints of fever, epigastric pain and vomiting for seven day. He denied any change in bowel habits, cough or hematemesis, colicky pain, chest pain, palpitation, sweating, giddiness, decreased urine output, swelling of legs, bleeding manifestations, alcohol ingestion prior to admission or similar history in past. There was fever and epigastric tenderness on

physical examination. Laboratory tests Showed Hb 13.4gm/dl, WBC 2600 cells/mm³, normal liver enzymes (AST 59 U/L; ALT 62U/L; alkaline phosphatase 160U/L; total bilirubin 0.9mg/dL), normal serum triglyceride level (83 mg/dL); amylase and lipase were 112 U/L and 54.8 U/L, respectively. We diagnosed Typhoid on the basis of Elisa IgM positive and positive blood culture. CT scan of the abdomen with intravenous contrast showed bulky appearing head of pancreas and heterogenous contrast enhancement with ill defined margins, with evidence of significant peripancreatic fat stranding. Pancreatic duct was normal, with no evidence of any calcification (modified CTSI score =04/10) [figure1].



Fig 1: CT scan omage

Abdominal ultrasound revealed a common bile duct diameter of 3 mm without any gallbladder wall thickening or gallstones. Noteworthy finding was the presence of edematous, heterogenous appearing head and body of pancreas with strong possibility of acute pancreatitis. The patient was treated with intravenous ceftriaxone 2 gram 12 hourly, iv azithromycin 1gram 24 hourly, fluids and analgesics. Amylase and lipase levels remained normal throughout hospital stay. Ten days after admission, he was discharged with complete resolution of symptoms.

DISCUSSION

Koshi had reported two cases of acute pancreatitis caused by *Salmonella typhi*. Strand and Sanders had reported the first case of pancreatic abscess due to *Salmonella typhi*.⁵ A case of pancreatic abscess due to *Salmonella typhi* who had gallstones and the organism was isolated from the necrotic pancreatic tissue was reported by Kune and Coster.⁶ In enteric fever, the cause of development of pancreatitis is not precisely known. Direct pancreatic colonisation of bacteria could stumble on by haematogenous route transmural migration, lymphatic route, via the biliary duct system and from the duodenum via the main pancreatic duct and particularly in patients with predisposing conditions such as biliary stasis due to cholelithiasis, choledocholithiasis, and biliary duct abnormalities.⁷ but our patient was devoid of such vulnerable conditions in that way. The literature also suggest that pancreatitis may be toxin induced or immune mediated.⁸ *Salmonella choleraesuis* may lead to *Salmonella* bacteremia which may follow localized *Salmonella* infection, but may also come about after gastroenteritis by *S. typhimurium* and enteric fever by *Salmonella typhi*.⁹ Pancreatic abscess and rarely pseudo Pancreatic cyst develop after acute pancreatitis. Elevation of lipase with in 48 hours above threefold of the normal range is the gold standard for diagnosis of acute pancreatitis. Clinician may include suggestive clinical features along with assisted radiological investigation when required.⁹ Lipase is an enzyme secreted by exocrine pancreas involved in digestion. During acute pancreatitis, serum lipase level increases within four to eight hours, reaches peaks at 24 hours, and remains elevated for one to two weeks. Lipase level remain increased during impaired renal function. So lipase levels may be useful for clinician in the recognition of this disorder. Review of the literature shows estimated negative predictive

value of lipase was between 94% and 100%.¹⁰ So a normal lipase level is pertinent to exclude the diagnosis of acute pancreatitis. Severe Pancreatitis may be associated with initial lipase levels above normal range and below the threefold threshold level, suggesting that lipase levels need not be related to severity of pancreatitis.¹⁰ In our patient, both clinical and radiological evidence of acute pancreatitis was present, and it also fulfilled several severity criteria. The normal enzyme levels in the patient may be due to the late presentation of the patient and/or presence of pancreatic necrosis resulting in a decrease in the levels of amylase and lipase.¹¹ Other factors that can lead to a normal serum amylase and lipase level in a patient of pancreatitis are presence of hypertriglyceridemia and pancreatic necrosis. We reviewed the literature for such cases of Acute Pancreatitis with normal lipase levels, however neither of them could provide the likely etiology or explanation.¹²

CONCLUSION

Enteric Fever is a rare cause of Acute Pancreatitis, and occurrence of normal serum Lipase levels in a case of pancreatitis is even rarer. We had high clinical suspicion of pancreatitis in the patient, and subjected him to relevant investigations. CT scan revealed features of pancreatitis, and patient was treated with appropriate antibiotics and other supportive measures. The patient showed gradual clinical improvement with the above treatment, hence proving that a high index of suspicion is needed to diagnose pancreatitis in enteric fever, even if initial serum lipase levels are normal.

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