

Case Report

A rare case of isolated pancreatic injury in blunt trauma abdomen

Devi Thirunavukkarasu*, Sriram Khanna, Shanthi Ponnandai Swaminathan, R. Kannan

Madras Medical College and Rajiv Gandhi Government General Hospital, Chennai, Tamil Nadu, India

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*Correspondence:

Dr. Devi Thirunavukkarasu,

E-mail: devit15aug@gmail.com

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ABSTRACT

Injury to the pancreas by a blunt trauma is very rare and accounts for less than 2% of all abdominal injuries. It can be acute or delayed presentation. CT abdomen is the major imaging method in the diagnosis of abdominal visceral injuries. We can confirm pancreatic main duct injuries with magnetic Resonance Cholangiopancreatography (MRCP) or ERCP by contrast extravasation. ERCP has also been used therapeutically with transpapillary stenting across the pancreatic duct disruption or simply across the sphincter of Oddi aiming at a reduction of the intrapancreatic pressure gradient. There are several surgery options for which can be employed to manage this injuries.

Keywords: Blunt trauma abdomen, Isolated pancreatic injury, Pancreatic duct injury

INTRODUCTION

Isolated pancreatic injury following blunt trauma to the abdomen is rare and the diagnosis is often tricky and it requires multiple investigations including blood reports, physical examination and radiological tests.^{1,2} Prognosis improves with a decrease in rate of morbidity and mortality if managed within time- early diagnosis and treatment. Pancreatic injury occur in 1-5% of all abdominal trauma due to blunt force (Isolated pancreatic injury occurring in less than 1%), with an increased occurrence 12% in abdominal trauma due to penetrating trauma and a high grade of morbidity (30-60%) and mortality (10-30%).¹⁻⁶

CASE REPORT

We report a 60 year male presented to emergency department with complaints of epigastric pain 48 hours after blunt trauma abdomen, mode of injury being hit by a cow. Epigastric pain was insidious onset, gradually progressive, dull aching, and non-radiating, no

aggravating/relieving factors. No h/o abdominal distension/vomiting.

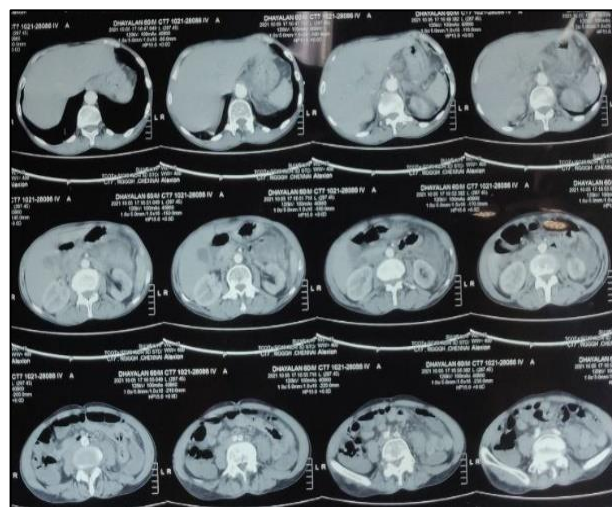


Figure 1: CECT abdomen image of grade 3 pancreatic injury.

No other significant past medical/surgical history. On admission vitals stable. General and other systemic examination are normal. Per abdomen examination soft, epigastric tenderness present, mild guarding in the epigastric region. Digital rectal examination was unremarkable. Routine blood investigations showed elevated WBC count and elevated amylase and lipase level. CECT abdomen shows non enhancing hypodensity noted around the distal body and tail of pancreas with peri pancreatic hypodense collection with collection tracking along the left pararenal space, left parabolic gutter and gastrosplenic region. Main pancreatic duct not visualized. F/S/O Grade III pancreatic injury with moderate ascites. Intraoperative findings dense adhesions in lesser sac. Transection of distal body of pancreas with subcapsular collection and hematoma and necrotic collection. Then proceeded with Emergency laparotomy and distal pancreatectomy with splenectomy. Postsplenectomy vaccination given. Post operative period uneventful. Reviewed after 1 month and No specific complaints.

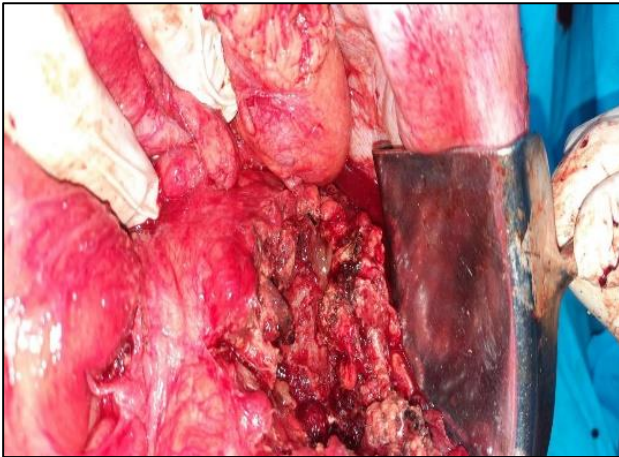


Figure 2: Intraoperative image of distal pancreatic transection with hematoma formation.

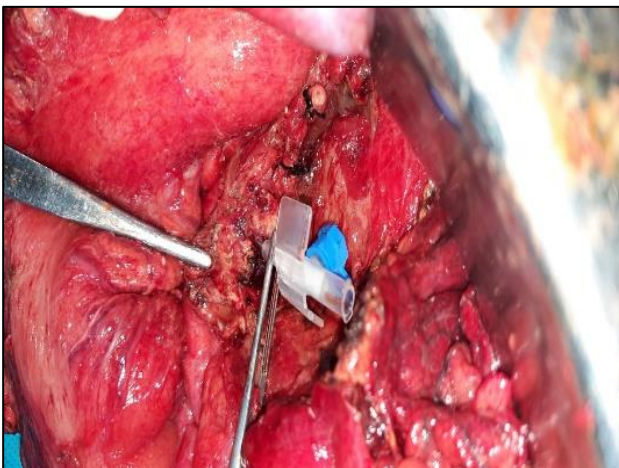


Figure 3: Intraoperative picture of distal pancreatic injury with main pancreatic disruption.

DISCUSSION

Pancreatic injury following blunt traumatic abdomen was first described by Travers.¹ For the injury to occur, the impact must be of a high velocity injury resulting into compression of the pancreas to the vertebral column.² Pancreatic injury occur in 1-5% of all abdominal trauma due to blunt force (Isolated pancreatic injury occurring in less than 1%), with an increased occurrence 12% in abdominal trauma due to penetrating trauma and a high grade of morbidity (30-60%) and mortality (10-30%).¹⁻⁶ Pancreatic injuries involving the neck and body are approximately 65% and approximately 35% involving the head and tail.³ Concurrent small bowel injury occur in approximately 90% of the patients with pancreatic injury due to anatomically proximal location with duodenal lesions being most common along with injury to vascular structures. Isolated pancreatic injury following blunt trauma to the abdomen is rare and the diagnosis is often tricky and it requires multiple investigations including blood reports, physical examination and radiological tests. Prognosis improves with a decrease in rate of morbidity and mortality if managed within time- early diagnosis and treatment. Classification of pancreatic injury according to AAST (American Association for the Surgery of Trauma) includes 5 grading.⁸ The diagnosis of pancreatic injury is mostly done intraoperatively during laparotomy because it is difficult to establish preoperatively due to non-specificity of the radiological tests, non-reliability of biochemical tests such as serum Lipase and serum Amylase and retroperitoneal location of the pancreas.^{1-3,9,10} Delay in diagnosis and treatment for more than 24 hours causes an increase in the morbidity and mortality rates causing complications in at least one-third of the cases such as: pseudocysts, abscesses, hemorrhage, fistulas, sepsis with multi-organ failure.¹⁻³ Elevated serum amylase and serum lipase tests are just used to indicate the possibility of pancreatic trauma.^{1,2,7} There is no association between pancreatic trauma grades and biochemical analysis. Imaging modalities include ultrasound abdomen, CT abdomen and MRCP. Ultrasound abdomen is non-invasive and very much useful in pediatric age group.^{11,12} For a stable patient, CT abdomen is best tool for the diagnosis of pancreatic injury sensitivity is 60-85%. MRCP is used when CT abdomen shows an imprecise picture.^{3,7,13} ERCP is invasive and advised for therapeutic purpose rather than diagnostic purpose.

The management for pancreatic injury is based on site of injury, the degree or integrity of pancreatic duct and AAST score. When the patient is hemodynamically stable and the AAST score of grade injury conservative management can be attempted.¹¹ Injury to the head of pancreas is managed by draining or Whipple's procedure. Injury to the body and tail is managed by distal pancreatectomy with or without splenectomy or pancreatectomy with Roux-en-Y pancreaticojejunostomy.^{6,14}

CONCLUSION

Pancreatic injury should be kept in mind even when a stable patient presenting with abdominal pain following blunt injury abdomen. CT abdomen is considered to be the best tool to diagnosis pancreatic injury. Management options are based on the AAST score and clinical status of the patient.

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