



ISOLATED PANCREATIC INJURY IN BLUNT ABDOMINAL TRAUMA- A CASE REPORT

Radiodiagnosis

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ABSTRACT

Isolated traumatic rupture of pancreas is rare presentation It occurs in less than 5% of cases and difficult to detect but are associated with high morbidity and mortality, especially if diagnosis is delayed.

An early diagnosis of pancreatic trauma can be challenging and difficult because of the lack of correlation between the initial presenting features, radiological and laboratory findings, and the severity of the trauma caused by compression of the pancreas between the vertebral column and external compression. These injuries are easier to pick up with cross sectional imaging especially the computed tomography (CT) scan.

Computed tomography (CT) can demonstrate pancreatic parenchymal injuries and complications such as abscess, fistula, pancreatitis, and pseudocyst. The most evident findings of pancreatic injury are posttraumatic pancreatitis with blood, edema, and soft tissue infiltration of the anterior pararenal space. CT findings can also suggest disruption of the pancreatic duct; however, the ability of CT to indicate this finding depends on the degree of parenchymal injury.

KEYWORDS

Pancreas, blunt abdominal trauma, Computed Tomography (CT), Pancreatic injury

INTRODUCTION:-

Pancreatic injury occurs in less than 5% of cases of major abdominal trauma (1). Usually pancreatic injury has association with injury to other intra abdominal organs or skeletal injuries. Isolated pancreatic injury is rare. Among total pancreatic injuries 66% of cases are with penetrating trauma and 33% of cases are due to blunt abdominal trauma (2). An early diagnosis of pancreatic trauma is important as it can lead to various complications like splenic vessel rupture, pseudocyst formation and pseudo-aneurysm. In blunt abdominal trauma early diagnosis is difficult, due to lack of correlation between clinical findings & Imaging with severity of trauma. Previously it was difficult to detect pancreatic injury, but now with CT scan it has become easy (3). Morbidity and mortality increases with associated injury to intra abdominal organs, vascular structures & delay in diagnosis. We present an unusual case report of isolated pancreatic rupture after road side traffic accident without injury to other abdominal organs (4).

CASE REPORT:-

A 23 year old obese male patient presented to emergency department after a road traffic accident, sustaining blunt trauma to abdomen. He complained of pain in epigastric region. On admission the patient was haemodynamically and respiratory stable with Glasgow Coma Score 12. Small laceration on face was surgically debrided and sutured. Initial sonographic examination revealed no obvious abnormality. During physical examination there were no visible signs of trauma of the chest; abdomen and extremities. Findings on CT scan of the brain, cervical spine didn't suggest existence of any major injury. Since the conducted diagnostic evaluation didn't verify the existence of traumatic changes, the patient was treated conservatively. However, two days after admission, his clinical status started to deteriorate.

In order to evaluate the patient's status, contrast-enhanced abdominal CT scan was made which suggested pancreatic injury with findings as follows. Discontinuity was noted in pancreas at the region of pancreatic head and neck involving the proximal pancreas towards right side Superior mesenteric vein suggestive of a grade 4 pancreatic laceration according to AAST involving the main pancreatic duct. Hypodense non enhancing collection was seen in the peripancreatic region, anterior para and perirenal space on right side and right paracolic gutter with free fluid noted in peritoneum with increased density. Findings were confirmed at surgery.

FIGURE-1



CECT abdomen showing discontinuity was noted in pancreas at the region of pancreatic head and neck involving the proximal pancreas involving the main pancreatic duct.

FIGURE-2



CECT Abdomen showing Hypo dense non enhancing collection in the peripancreatic region, anterior para and perirenal space on right side and right paracolic gutter with free fluid noted in peritoneum with increased density.

DISCUSSION:-

Abdominal trauma is a common condition met at the emergency room. Due to its protected anatomic location, traumas of the pancreas are of relatively low frequency. Pancreatic transection due to blunt abdominal injury usually occurs through the neck or the corpus where it lies anterior to the vertebral column providing a surface of compression. Pancreatic injuries may be difficult to diagnose clinically

because of the retroperitoneal location of the organ which masks the clinical features of peritonitis. Physical examination may give normal findings and symptoms may be nonspecific. Laboratory tests may also be misleading especially during the early phase of the disease. Although hyperamylasemia is considered a sign of pancreatic injury.(5) Helical multi-slice CT, which has both sensitivity and specificity as high as 80%, represents the best noninvasive diagnostic method for the detection of pancreatic injury. Main pancreatic duct (MPD) damage is a major determinant for morbidity and mortality associated with pancreatic trauma. Delayed diagnosis of MPD affects patient's outcome with increasing morbidity and mortality. American association for surgery of trauma has classified pancreatic trauma into 5 grades as follows Grade-1 hematoma means minor contusion without ductal injury & laceration means superficial laceration without ductal injury. Grade-2 hematoma indicates major contusion without ductal injury or tissue loss & laceration denotes major laceration without ductal injury or tissue loss whereas Grade 3 laceration indicates distal transection or pancreatic parenchymal injury with ductal injury. Grade-4 laceration means proximal transection or pancreatic parenchymal injury involving the ampulla & lastly Grade-5 laceration indicates massive disruption of pancreatic head (6) Hemodynamically stable patients and in the absence of other associated injuries, blunt injuries to the pancreas may be managed conservatively with close monitoring of vital signs and general condition. However, patients with continuous pain, whose condition is worsening and develop symptoms of pancreatic injury, should be reassessed thoroughly for it whether immediate operative intervention is needed [3]

CONCLUSION-

Pancreatic injuries are not frequent, but they have an important place in the abdominal trauma considering the high level of morbidity and mortality that is associated with these injuries. The diagnosis of pancreatic injuries needs a high index of suspicion. Delay of a timely diagnosis significantly reduces the chances of adequate treatment, thereby increasing the morbidity and mortality. Therefore clinicians must be alert in multiple abdominal injuries and should always consider an associated pancreatic injury before or during laparotomy operations. CT is considered as gold standard for diagnosis of pancreatic trauma.

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