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GROOVE PANCREATITIS -A DIAGNOSTIC DILEMMA

Radiology

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ABSTRACT

Groove pancreatitis is a segmental chronic pancreatitis that affects the groove area, classically the anatomical area between the pancreatic head, the duodenum, and the common bile duct. The etiopathogenesis remains elusive till date, though association with alcohol abuse has been described in literature. Imaging feature described include soft tissue mass in the groove, thickening of medial wall of duodenum, thus closely mimicking a neoplastic aetiology and hence posing diagnostic dilemma. However classic findings of cystic changes in the groove extending to duodenal wall and fibrotic component can aid the radiologist in making an accurate diagnosis and thus avoiding unnecessary surgical intervention. Groove pancreatitis is a disease that should be considered in the list of differential diagnosis of masses implicating the pancreatic head and medial duodenal wall.

KEYWORDS

groove pancreatitis, chronic pancreatitis, cystic changes

Case Presentation

A 32-year-old male presented with acute upper abdominal pain to the emergency department (ED). He gives no history of vomiting, loose stools, fever, jaundice, and constipation. He gives personal history of chronic alcohol abuse. He has no significant past medical history and no history of hospital visits.

Physical examination revealed tenderness in the epigastric region palpation. There was no guarding, rebound, pulsatile, or palpable mass. His vitals were stable. The patient was placed on observation status in the ED, and laboratory and diagnostic tests were ordered. The patient was put on intravenous(iv) fluids and parenteral pain medications. Meanwhile he was worked up with laboratory and radiological tests. The laboratory test shows mildly elevated total counts with two-fold increase in serum amylase and lipase.

Imaging

Plain radiograph of abdomen revealed no free air in the peritoneal cavity or abnormally dilated bowel gas pattern. Suspecting acute pancreatitis he was further evaluated with plain and contrast sections of Multidetector Computed tomography (MDCT) of abdomen. The imaging revealed widening of pancreaticoduodenal groove with sheet like hypodense curvilinear soft tissue with cystic changes (figure 1). On contrast enhanced study revealed patchy enhancement of soft tissue in delayed phases (figure 2 and 3), highlighting the presence of fibrotic component within.

Figure 1 : 32 year old chronic alcoholic presenting to emergency department with acute upper abdominal pain

Axial contrast enhanced MDCT of abdomen shows widened pancreaticoduodenal groove with hypodense curvilinear soft tissue with cystic changes (white arrow).

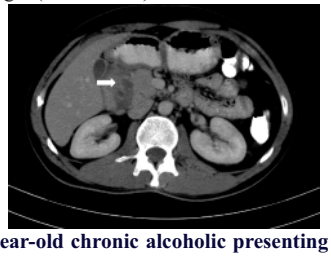

Figure 2: 32-year-old chronic alcoholic presenting to emergency department with acute upper abdominal pain

Axial contrast enhanced MDCT of abdomen shows widened pancreaticoduodenal groove with sheet like hypodense curvilinear soft tissue with cystic changes, showing patchy enhancement in delayed phases (white arrow).

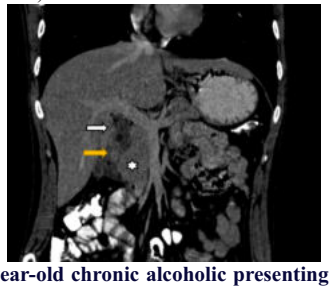

Figure 3: 32-year-old chronic alcoholic presenting to emergency department with acute upper abdominal pain

Coronal reformatted contrast enhanced MDCT of abdomen shows sheet like hypodense curvilinear soft tissue showing patchy enhancement (yellow arrow) within widened groove between the duodenum(white arrow) and pancreatic head (white asterix).

The patient responded to the contrast opacification conservative management and was discharged the next day.

DISCUSSION

Groove pancreatitis (GP), a rare form of chronic pancreatitis which has remained a diagnostic dilemma for radiologists, pathologists, and clinicians ever since its first description(1). It affects space between the superior aspect of the pancreatic head, the duodenum, and the common bile duct, was first described by Becker in 1973, and is classically called the pancreatico -duodenal groove (2). It is a rare entity, and only few cases have been described in literature regarding the same. Even though a diagnosis can be considered based on characteristic imaging appearance, inability to distinguish it from grave pathologies like pancreatic or duodenal malignancy, often ultimately leads to surgical excision for histopathological confirmation(1).

Etiopathogenesis and clinical presentation

The most common age groups affected are males in the age range of 40-50 years. The only association linked to this entity is chronic alcoholic abuse(2).

The clinical presentation is like other forms of chronic pancreatitis and include weight loss, upper abdominal pain, postprandial vomiting, and nausea due to duodenal stenosis(3).

Imaging

There are two morphologic types of groove pancreatitis, the pure and segmental form. The MDCT findings depends on the morphologic type of lesion (4).In the pure form of the disease, wide varied imaging appearance ranging from ill-defined fat stranding, widening of the groove and inflammatory change in the groove between the pancreatic

head and duodenum, to frank soft tissue with or without cystic changes in the groove has been described. The evolution of changes includes mild enlargement of pancreas with accumulation of fluid within the groove in early stage to frank soft tissue in late stage. The characteristic "sheetlike" curvilinear crescentic shape of soft tissue in the pancreaticoduodenal groove is best appreciated on coronal multiplanar reformatted images(5) .The presence of fibrotic component within the lesion can show progressive enhancement in delayed phases(3). Often there is associated thickening of medial wall of duodenum with intramural cysts. The fibrotic process involving adjacent pancreatic tissue may lead to the dilation of the main pancreatic duct (MPD) and common bile duct (CBD)(2).

The segmental form of disease appears indistinguishable from malignancy of pancreatic head because involvement of the groove is often obscured by mass like enlargement of the pancreatic head(1).

The diffuse retroperitoneal inflammatory change seen in acute oedematous pancreatitis is generally not seen with groove pancreatitis. It is uncommon or rather rare to see fluid in the pararenal spaces or peripancreatic location or retroperitoneal fascial thickening(4).

The main differential diagnosis includes pancreatic adenocarcinoma and ampullary/duodenal neoplasms occurring in the same anatomic area. Diagnostic dilemma often arises because of the striking similarity in their clinical presentation and overlapping radiologic and endoscopic(4). Distinction between GP and pancreatic adenocarcinoma has important clinical implications and can only be accurately made after surgical resection in most cases.

The management includes conservative methods like abstinence from alcohol and tobacco and opioid analgesics for pain management. Nevertheless, surgery is reserved for symptomatic patients, with resultant relief from opioid dependence and alleviation of abdominal pain(3).

CONCLUSION

Groove pancreatitis is a specific form of pancreatitis which stands apart from other types due to characteristic imaging appearance. Prospective diagnosis of this entity is challenging as the condition mimics a pancreatic neoplasm. However, identification of characteristic imaging appearance of cystic changes associated with soft tissue epicentered in the pancreatico-duodenal groove aids the radiologist in strongly suggesting this possibility and thereby, avoiding unnecessary surgical intervention.

Conflicts of interest: Nil

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