



GROOVE PANCREATITIS – CLINICAL AND IMAGING PERSPECTIVE.

Radiodiagnosis

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ABSTRACT

Groove pancreatitis also known as Para duodenal pancreatitis is an uncommon form of chronic pancreatitis, affecting the pancreaticoduodenal groove which is a space between pancreatic head, duodenum and common bile duct. Groove pancreatitis mimics the pancreatic, duodenal or ampullary malignancy which usually leads to surgery. Although the definitive diagnosis of groove pancreatitis on the basis of imaging finding can be challenging however in some cases imaging finding may suggest the diagnosis. In this study we report three cases of groove pancreatitis with emphasis on clinical and computed tomography findings.

KEYWORDS

Groove pancreatitis ; para duodenal pancreatitis ; computed tomography

INTRODUCTION

The pancreaticoduodenal (PD) groove is located between the head of the pancreas medially, second part of duodenum laterally, duodenal bulb superiorly, third part of the duodenum and inferior vena cava posteriorly. Groove or Paraduodenal pancreatitis is an unusual form of chronic pancreatitis affecting PD groove. Paraduodenal pancreatitis was first described by Becker¹ in 1973 and further groove pancreatitis (GP) term was given by Stolte et al². The exact etiology is unknown however strong association has been found with chronic alcohol abuse. The clinical course of GP can be acute or chronic. In the acute case, patients usually present with severe abdominal pain, vomiting, and in rare cases, acute gastric outlet obstruction. In chronic setting patient may present with jaundice due to distal common bile duct narrowing and weight loss.

CASE 1.

33 years old male presented with recurrent epigastric pain for 2 years with chronic alcohol abuse history. Serum amylase and lipase were mildly elevated, tumour markers (CA 19-9 and CEA) and liver function tests were unremarkable. Contrast enhanced computed tomography (CECT) abdomen of patient was done. On CECT abdomen there was hypodense sheet like soft tissue seen in PD groove with symmetrical circumferential thickening of the 2nd part of the duodenum and multiple small cysts were seen in the thickened duodenal wall and in PD groove. Pancreatic head region was bulky and showed a cystic lesion [Fig 1(a & b)]. Pancreatic duct and CBD were not dilated. The diagnosis of groove pancreatitis was kept. Patient was kept on conservative management and fine needle aspiration cytology (FNAC) was done which showed no sign of malignancy.

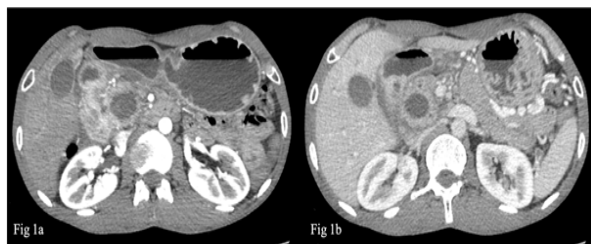


Figure 1a and 1b- CECT abdomen axial images showing thickening of the 2nd part of the duodenum with hypodense soft tissue in PD groove along with cystic areas in duodenal wall and head of pancreas. Pancreatic head is also bulky.

CASE 2

46 years old male presented to department of surgery with recurrent epigastric pain for 4 months with chronic alcohol intake history. Serum Lipase was 154 U/L, Amylase and CEA levels were normal. CECT abdomen was done for further evaluation. On CECT there was soft tissue in PD groove with cystic areas in pancreatic head region. 2nd part of duodenum shows symmetrical wall thickening [Fig 2(a & b)]. The diagnosis of groove pancreatitis was kept. On FNAC of patient no sign of malignancy were present.

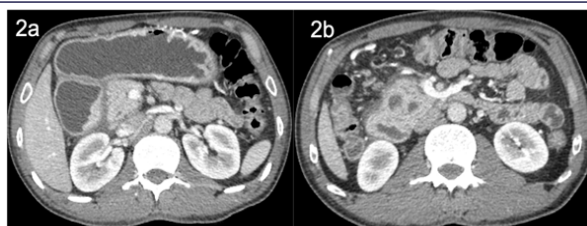


Figure 2 (a & b)- CECT abdomen images showing hypodense soft tissue in PD groove. Few cystic areas are seen in the pancreatic head and in PD groove coupled with thickened medial wall of second part of duodenum.

CASE 3

42 years male with history of pain epigastrium for 8 months came to department of surgery. His serum amylase, lipase level were slightly raised and other blood investigations were unremarkable. CECT abdomen was done, the findings were thickened wall of 2nd part of duodenum and soft tissue density in PD groove and cystic areas in PD groove and in thickened duodenal wall [Fig 3 (a & b)]. Further FNAC was done and there were no signs of malignancy, hence diagnosis of groove pancreatitis was made.



Fig 3(a & b): CECT abdomen axial images showing thickened wall of 2nd part of duodenum along with cystic areas in PD groove and in thickened duodenal wall.

DISCUSSION

In our cases, the radiological findings that were favouring the diagnosis of groove pancreatitis were typical location, presence of cystic areas in the duodenal wall and the pancreatic head, no significant dilatation of pancreatic duct or CBD.

GP has been divided into two forms. Pure form which affects only the pancreaticoduodenal groove and the segmental form in which epicentre is in groove and involving pancreatic head medially. In the segmental form of groove pancreatitis the groove is often obscured by enlarged pancreatic head and can mimic a pancreatic head mass. Differentiation of the two entities can be very difficult on the basis of radiological findings only.

Microscopic findings are thickened duodenal wall, Brunner gland and smooth muscle hyperplasia, oedema and inflammation. Cystic

dystrophy in heterotopic pancreatic islands within the duodenal wall which is thought to predispose the patients to groove pancreatitis³. Heterotopic pancreatic tissues cannot be appreciated on CT unless it gets inflamed resulting in cystic changes⁴.

Imaging findings on CECT are a hypodense sheet like poorly enhanced soft tissue between the pancreatic head, thickened duodenal wall coupled with cysts in the duodenal wall and in the groove⁵. These findings are also seen in our cases. MRI findings include sheet-like T1 hypointense mass between the head of the pancreas and the duodenum and can be slightly hyperintense or hypointense on T2-weighted images depending upon duration of the disease because of edema in subacute disease and fibrosis in chronic disease respectively along with the cystic lesions in the groove or duodenal wall on T2-weighted images^{6,7}.

Groove pancreatitis can be treated by conservative measures such as analgesics, pancreatic rest, and abstinence from alcohol. Surgical measure are often required to rule out the malignancy, include pancreaticoduodenectomy using the Whipple procedure or a pylorus-preserving pancreaticoduodenectomy.

CONCLUSION

Groove pancreatitis is an unusual form of pancreatitis however should always be kept in the differential diagnosis of a soft tissue mass in the pancreaticoduodenal groove. Radiological findings although not pathognomonic of this entity, can give important clues to the diagnosis.

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