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# GROOVE PANCREATITIS – A CASE REPORT OF A MIMIC OF PANCREATIC CANCER

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**ABSTRACT** Groove pancreatitis is a rare form of chronic pancreatitis and involves the tissue bound by the duodenum, pancreatic head and the common bile duct [1], which is referred to as the *groove*. Initially described by Potet and Duclert as *cystic dystrophy of the duodenal wall* [2] and by Becker as *Rinnenpankreatitis* [3], it was given the name *groove pancreatitis* by Stolte et al [4]. Adsay and Zamboni [5] proposed a common term *paraduodenal pancreatitis* to encompass a variety of conditions including periampullary duodenal wall cysts, groove pancreatitis, pancreatic hamartoma of the duodenal wall and myoadenomatosis, as the pathologic features of all these conditions overlap. Groove pancreatitis has been classified into two categories – the pure form involving only the groove and the segmental form with involvement of the pancreatic head causing stenosis of the pancreatic duct. It has been associated with chronic alcoholic intake and usually presents with abdominal pain, weight loss and an ill defined mass in the periampullary region on radiology. Though a few reports of conservative management have been published, including endoscopic dilatation of the accessory pancreatic duct, most patients undergo a pancreaticoduodenectomy, mostly to rule out malignancy. Obstructive jaundice as a presenting symptom is extremely rare.
We report the case of a 42 year old male, who presented with abdominal pain, weight loss and anorexia and a mass in the pancreatic head and discuss the management of groove pancreatitis in this patient, with a review of the available literature.
Groove pancreatitis is a clinical and radiologic mimic of pancreatic malignancy, and has to be kept in mind when the patient's symptoms and signs are not definitive for malignancy.

**KEYWORDS :** *Groove pancreatitis, pancreatico-duodenectomy, chronic pancreatitis, pancreatic cancer, case report.*

## INTRODUCTION

Groove pancreatitis (GP) is an unusual clinical manifestation of chronic pancreatitis, affecting the tissue bound by the duodenum, pancreatic head and the common bile duct. Becker first used the term "Rinnenpankreatitis" [1] for this entity which was later translated by Stolte into groove pancreatitis [4]. Becker and Mishcke classified groove pancreatitis into two distinct types: 1. the pure form, in which only the groove area is involved and 2. the segmental form which involves the pancreatic head also [3]. The anatomical landmarks of the groove are the second part of the duodenum laterally, the head of the pancreas and common bile duct medially, the first part of duodenum anteriorly and the inferior vena cava posteriorly.

We present the case of a 42 year old gentleman with features of a carcinoma head of pancreas and underwent pancreatico-duodenectomy, but was found to have groove pancreatitis.

### Case presentation

42 year old Mr K, a chronic alcoholic presented to us with history of upper abdominal pain of a year's duration. There were no other symptoms and the patient did not report any weight loss or anorexia. Clinically, the patient was anicteric and well built. There was no palpable mass on abdominal examination nor were there any supraclavicular nodes.

An endoscopy revealed edematous mucosa in the distal stomach and in the duodenum. A computed tomography scan (CECT) of the abdomen and pelvis showed a 4.8 x 3.6 cm mass lesion in the pancreatic head with cystic areas in the center, free from the superior mesenteric vein and artery but without common bile duct or the intra hepatic biliary radicles dilatation. Tumor markers were within the normal range.

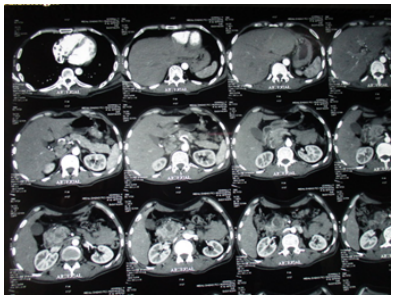


**Fig. 1: Contrast CT of the abdomen showing the solid-cystic mass in the pancreatic head**

With a provisional diagnosis of a cystic neoplasm of the pancreatic head, the patient underwent preoperative evaluation and was planned for a laparotomy. At surgery, we found a 6 x 4 cm infiltrative tumor in the pancreatic head with dense fibrosis extending up to the superior mesenteric vessels with a few lymph nodes in the peripancreatic region. The rest of the abdominal viscera were normal.

A classical Whipple's procedure was performed. The post operative period was uneventful and the patient was discharged on the 12th post operative day on oral liquid diet.

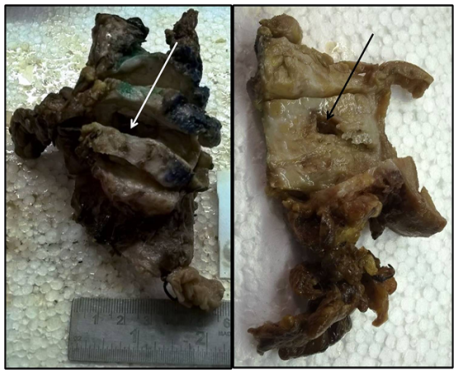
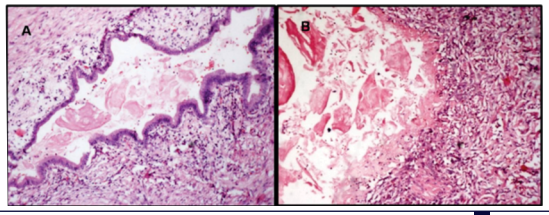


**Fig 2: Cystic lesion in the pancreatic head with surrounding fibrosis and thickened duodenal wall**

### Final diagnosis

The final histopathology was reported as groove pancreatitis. The pancreatic duct was dilated, with focal ulceration and with inspissated secretions. Inflammatory cell infiltrates were profuse with extensive fibroblastic proliferation and fibrosis of the pancreatic parenchyma. The duodenal wall showed marked hyperplasia of the Brunner's glands and was thickened. All the lymph nodes showed only reactive hyperplasia [**Fig. 3**].



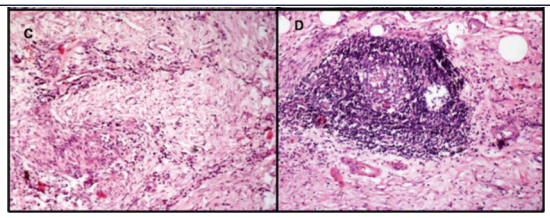



**Fig 3: Dilated cystic structures containing inspissated secretions with fibrosis and atrophy of the exocrine pancreatic acini**

### Outcome and follow-up

The patient has completed 20 months of follow up and is doing well, without recurrence of the symptoms.

## DISCUSSION

The literature available on *GP* is limited. From the data published so far, it has been estimated that 2.7% to 24.4% of patients who undergo pancreatic resection for chronic pancreatitis have groove pancreatitis [6, 7]. The proposed reasons for the causation of this entity are primary or secondary obstructive mechanisms. The primary causes include the presence of heterotopic pancreatic tissue in the duodenum or functional variations in the opening of the major or minor pancreatic ducts. These individuals are more prone to damage caused by smoking or alcoholism with increasing viscosity of the pancreatic secretions, calcification and inflammatory fibrosis of the pancreatic parenchyma adding to the damage [6].

Men in the fourth or fifth decade are the most common group affected by *GP* [4]. There is a history of significant alcohol use in these patients. The most common clinical presentation is with abdominal pain and weight loss due to anorexia and vomiting.

The pathological changes characteristic of *GP* are cystic changes in the duodenal wall, hyperplasia of the Brunner's glands, intense fibrosis in the groove area which can spread to the pancreatic head and occasional lymph node enlargement in the peripancreatic region [8].

Clinically and on imaging, pancreatic cancer is a close differential and so, operative intervention is the preferred therapeutic modality in most patients. *GP* appears as a sheet like hypodense mass on CECT and as a hypointense poorly enhancing mass between the pancreatic head and the duodenal wall [9]. In spite of the advances in imaging techniques, most patients cannot be conclusively diagnosed as being benign.

The most common indications for pancreatico-duodenectomy are an inability to differentiate from cancer, failure of conservative management and recurrent abdominal pain [9]. A study by Casseti et al reported an increase in body weight and improvement in abdominal pain in 76% of their patients [10].

## CONCLUSION

Groove pancreatitis is a rare subtype of chronic pancreatitis and recent classifications include it under paraduodenal pancreatitis. Clinical diagnosis is challenging and radiology may be inconclusive. Pancreatico-duodenectomy is the definitive treatment with excellent prognosis, provided the patient abstains from alcohol.

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