

GROOVE PANCREATITIS - CAUSE OF RECURRENT PANCREATITIS

Georgiana Crișu^{1,3}, Monica Grigore², V. Balaban^{2,3}, Andreea Zoican², Marina Ciochina², V. Atanasiu³, Laura Gaman³, Irina Stoian³, Raluca Costache^{2,3}, Florentina Ioniță-Radu^{2,3}, Mariana Jinga^{2,3}

¹County Emergency Hospital Ploiesti

²"Dr. Carol Davila" Central Emergency Military University Hospital, Bucharest

³"Dr. Carol Davila" University of Medicine and Pharmacy, Bucharest

Corresponding author: Georgiana Catalina Crisu

Address: County Emergency Hospital Ploiesti, str. Gageni, nr. 100, Prahova County

Mailing address: georgi_robu@yahoo.com

Abstract

Background. Groove pancreatitis or paraduodenal pancreatitis represents a rare type of pancreatitis, and can be classified into cystic dystrophy of the duodenal wall in heterotopic pancreas, paraduodenal cyst or myoadenomatosis.

Case presentation. We present a case of a 58 year old man, drinker and smoker who was admitted in the Department of Gastroenterology for abdominal pain, weight loss and nausea. From his history we have noticed frequent presentations of recurrent acute pancreatitis in the last two years. Laboratory tests have revealed cholestasis, high value of lipase and high value of amylase, with normal value of CA 19.9. The magnetic resonance from the last two years showed the same appearances: a large and edematous head of pancreas, a thickening of the wall of adjacent duodenum and an inhomogeneous area with cystic transformation in the head of the pancreas. We performed endoscopic ultrasound with fine needle aspiration. The histopathological result showed only inflammatory cells. We have established the diagnosis of groove pancreatitis.

Conclusion. Groove pancreatitis represents a rare condition, with an incidence of 0.4%-14% on biopsies. Endoscopic ultrasound is the best method for diagnosis, it could evaluate also the duodenal wall.

Keywords: groove pancreatitis, ultrasound endoscopy, cystic dystrophy of duodenal wall.



INTERNAL MEDICINE

Clinical cases

Rezumat

Introducere. Pancreatita de șanț duodenal sau pancreatita paraduodenală reprezintă un tip rar de pancreatită și poate fi clasificat în distrofie chistică a peretelui duodenal, pancreas heterotopic, chist paraduodenal sau mioadenomatoză.

Prezentarea cazului. Prezentăm cazul unui bărbat în vârstă de 58 de ani, băutor și fumător, care a fost internat în secția de gastroenterologie pentru durere abdominală, scădere ponderală și greață. Din istoric am observat episoade frecvente de pancreatită acută, recurente în ultimii doi ani. Testele de laborator au relevat colestază, valori crescute ale lipazei și amilazei, cu valoare normală a CA 19.9. Imagistica prin rezonanță magnetică din ultimii doi ani a evidențiat aceleași aspecte: extremitatea cefalică a pancreasului mare și edemațiată, îngroșarea peretelui duodenal adiacent și o zonă neomogenă cu transformare chistică în capul pancreasului. Am efectuat ecoendoscopie cu puncție aspirativă. Rezultatul histopatologic a evidențiat numai celule inflamatorii. Am stabilit diagnosticul de pancreatită de șanț duodenal.

Concluzie. Pancreatita de șanț duodenal reprezintă o patologie rară, cu o incidență de 0,4-14% pe biopsii. Ecoendoscopia este cea mai bună metodă de stabilire a diagnosticului, putând evalua și peretele duodenal.

Cuvinte cheie: pancreatită de șanț duodenal, ecoendoscopie, distrofie chistică a peretelui duodenal.

Introduction

Groove pancreatitis is a rarer form of chronic pancreatitis, which affects the "groove" - a well defined area between the pancreatic head, duodenal wall and the common bile duct. It is more frequent in men with alcohol intake, with ages between 40-50 years old. Groove pancreatitis can be a challenging diagnosis, often with a pseudotumor aspect, which is a good reason for being diagnosed as a pancreatic adenocarcinoma, one of the

differential diagnoses of this pathology. The clinical manifestations can be identical with other types of pancreatitis, the postprandial vomiting could be consequence of a duodenal stenosis, as the main symptom of groove pancreatitis⁽¹⁾.

Case presentation

We present the case of a male patient, aged 58 years old, smoker (135 pack-years) and with drinking behaviour, admitted in the

Gastroenterology Clinic for generalised abdominal pain, weight loss and nausea, symptoms which have started a few months ago, with frequent intermittent acute episodes.

The physical examination at admission revealed abdominal wall in normal movement with respiration, tender at palpation, but without signs of peritoneal irritation, with normal peristalsis; blood pressure of 120/70 mm Hg, AV=70 bpm, rhythmical heart sounds, with no murmurs; absence of pulmonary pathology.

Biochemistry results: high levels of lipase (>10x normal value), high levels of amylase (>10x normal value), cholestasis syndrome with alkaline phosphatase = 215 U/L and and gamma glutamyl transpeptidase of 281 U/L, CA 19.9 marker and carcinoembryonic antigen within normal limits. The same biochemistry results were present last year.

Endoscopy of the upper gastrointestinal tract identified at the level of the duodenum 2, an intensely congested, swollen, pseudotumor-like mucosa.

MRI showed the increase in the pancreatic head volume with edema and thickening of the duodenal wall. An endoscopic ultrasound with fine needle aspiration was performed: at the level of the pancreatic head it revealed edema and an inhomogeneous mass with cystic transformation, which was punctured and aspirated (6 passes in "fan"). The histopathological examination showed chronic inflammatory infiltrate, and for the liquid aspiration - carcinoembryonic antigen - normal.

During the hospitalisation, the patient received treatment for restoring the hydroelectrolytic balance with Ringer solution 500 mL x2/day, glucose 10% 500 mL x2/day, antalgic treatment and proton pump inhibitors (pantoprazole 40 mg iv/day), with

improvement of symptoms. Corroborating the anamnestic, clinical and paraclinical data, we established the diagnosis of groove pancreatitis with an episode of acute pancreatitis.

The patient was followed-up for several months (clinically, biologically and via imaging - MRI and ultrasound endoscopy), and the regression of both the peripancreatic-pancreatic edema and of cystic degenerative area was noted.

Discussions

Groove pancreatitis is a segmental type of chronic pancreatitis, characterised by fibrosis of the paraduodenal groove, an anatomical section limited by the pancreatic head, the duodenum and the main bile duct. This entity has been first described by Becker in 1973, with the German name of "Rinnenpankreatitis", and the term of groove pancreatitis has been elaborated by Stolte et al. in 1982. Because this kind of pathology is rare, the incidence of it is unknown^(2,3,4,5,6,7).

In 1991 Becker and Mischke classified groove pancreatitis in a pure form and a segmental form. The first involves only the paraduodenal groove, preserving the pancreatic tissue and the main bile duct, while the latter form affects both the pancreatic groove and the pancreatic head, with the stenosis of pancreatic duct and upstream dilatation⁽⁸⁾.

The pathogenesis remains unclear, alcohol remaining the main risk factor. One of the most involved mechanisms is the alteration of pancreatic secretion at the level of Santorini duct due to the ethanol aggressiveness. Other causes involved in the etiology of this pathology could be Brunner glands hyperplasia, ectopic pancreas, duodenal cystic dystrophy^(9,10,11,12,13).



INTERNAL MEDICINE

Clinical cases

Groove pancreatitis affects mainly male patients with drinking behaviour.

The main symptoms are abdominal pain, early satiety, feelings of nausea and vomiting. These symptoms can last from a couple of weeks to more than a year until establishing the diagnosis. The lab parameters can reveal increases of pancreatic enzymes and occasionally of hepatic enzymes. The tumoral markers can be seldom increased⁽¹⁴⁾.

The diagnosis of groove pancreatitis can frequently be interpreted as a pancreatic adenocarcinoma or an autoimmune pancreatitis.

The first imagistic methods used in the diagnosis of this disorder were abdominal ultrasonography and endoscopy of the upper gastrointestinal tract (which can reveal congestion and inflammation of the duodenum mucosa, with a polypoid aspect, sometimes with the stenosis of the lumen). Ultrasound can reveal a thickening of the duodenal wall, a lumen stenosis and a hypoechogenic lesion of the head of the pancreas.

For a clear diagnosis the CT scan is used, which can highlight both a hypodense lesion, with hypouptake, limited by the pancreatic head and duodenal wall, as well as multiple cysts tangent to the duodenal wall. MRI can also reveal a hypointense lesion in T1 and hyperintense lesion in T2. The endoscopic

ultrasound with fine needle aspiration could be necessary in the preoperative diagnosis of groove pancreatitis, although the histopathological results can be variable depending on the puncture area. Although a lot of radiological aspects are described, the differential diagnosis between groove pancreatitis and adenocarcinoma of the head of the pancreas is often impossible^(15,16). Recently, Kalb et al. have obtained an accuracy diagnosis of 87.2% for groove pancreatitis, using 3 MRI criteria: focal thickening of the duodenum 2, hyperuptake of the second segment of the duodenum, and cystic alterations in the region of the accessory pancreatic duct⁽¹⁷⁾.

According to these authors, if the 3 criteria are fulfilled, the adenocarcinoma of the pancreatic head can be excluded, with a predictive negative value of 92.9%. Vascular invasion can be an important sign in the differential diagnosis between the 2 entities^(18,19,20). The invasion of the gastroduodenal artery with its infiltration is a sign for pancreatic adenocarcinoma. Endoscopic biopsy can be useful in diagnosis; thus hyperplasia of Brunner glands is found in groove pancreatitis, but not in the case of pancreatic adenocarcinoma. The endoscopic ultrasound with fine needle aspiration plays an important role due to its high sensitivity and specificity rates in the diagnosis of pancreatic cancer^(21,22). The treatment of

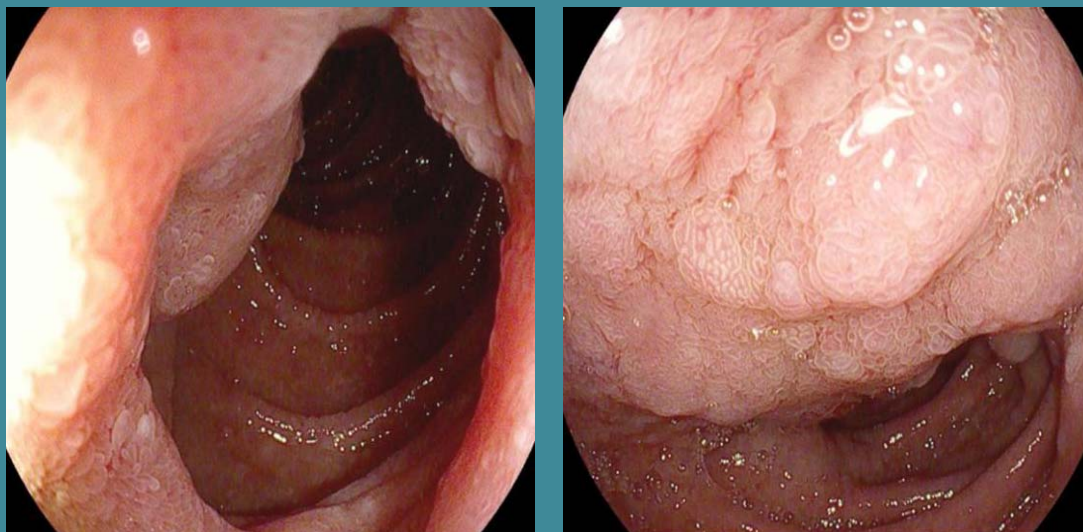


Figure 1. Duodenum with mucosa with highly intense congestion, edema and polypoid aspect

Figure 2. Duodenum with mucosa with highly intense congestion, edema and polypoid aspect

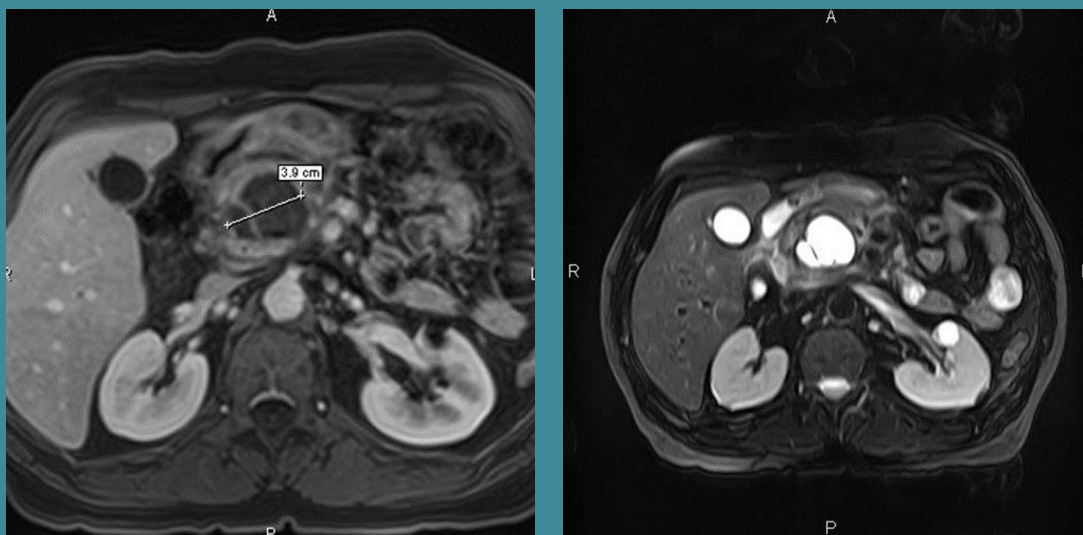


Figure 3. MRI: the pancreatic head swollen, with an inhomogeneous mass

Figure 4. MRI: the pancreatic head swollen, with an inhomogeneous mass



INTERNAL MEDICINE

Clinical cases

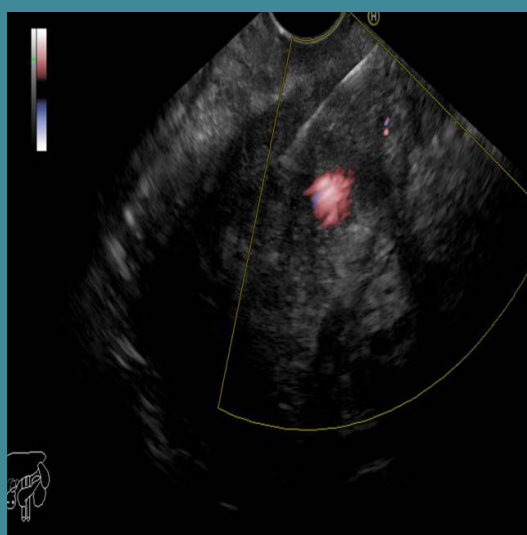


Figure 5. Inhomogeneous mass with cystic degeneration of the pancreatic head

Figure 6. The endoscopic ultrasound-guided puncture in the inhomogeneous area, with a cystic content from the level of the head

groove pancreatitis is classified into 2 categories:

- conservative, medical and endoscopic
- surgical

From the point of view of conservative treatment, analgesic therapy can be administered, alcohol withdrawal and endoscopic stent implantation. In a recent study, Arvanitakis et al. demonstrated an improvement in symptoms and a decrease in the rate of complications, combining the endoscopic methods with the analgesic therapy⁽²³⁾.

Surgery remains a method of choice when symptoms cannot be improved through conservative treatment or when the differential diagnosis with pancreatic adenocarcinoma is difficult. The surgical option often used is the Whipple procedure.

Conclusions

Groove pancreatitis remains a rare entity of chronic pancreatitis, being at the same time a cause of recurrent acute pancreatitis. It requires a differential diagnosis with pancreatic adenocarcinoma, often this aspect

being very difficult. In the acute phase the treatment is conservative. The surgical treatment represents an option only for cases which are refractory to the conservative therapy. The diagnosis of groove pancreatitis can be sustained by the biological and clinical parameters and exams performed by CT/MRI/ultrasound endoscopy. The tumoral mass aspect revealed by endoscopic ultrasound and high values of the tumoral marker CA 19.9 could be used as indices in pancreatic cancer.

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