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Groove pancreatitis – an unusual case of pancreatitis, case report

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ABSTRACT
Groove pancreatitis is a rare form of chronic pancreatitis affecting the pancreaticoduodenal groove, leading to ductal stenosis and symptoms like abdominal pain, vomiting, and jaundice. It often coexists with cystic dystrophy of the duodenal wall (CDDW), marked by duodenal wall thickening and cyst formation. We report a case of a 36-year-old male with persistent abdominal

pain and a history of acute pancreatitis, diagnosed with CDDW via MRI. Despite multiple endoscopic interventions, ductal access was challenging due to inflammation and conservative management with proton pump inhibitors and pancreatic enzymes provided symptom relief. Diagnostic tools include MRI, endoscopy, and EUS were administered. Management of groove pancreatitis still remains a challenge consisting of treatment ranging from conservative methods to surgical intervention for refractory cases, emphasizing a cautious, stepwise approach and lifestyle changes.

Keywords: pancreatitis; chronic pancreatitis; duodenum; duodenal diseases; MRI

INTRODUCTION

Groove pancreatitis is a rare form of pancreatitis located in the vicinity of the pancreaticoduodenal groove, which is a potential space between the head of the pancreas and the duodenum. Due to its location, it often causes stenosis of the pancreatic and common bile ducts. The symptoms include weight loss, upper abdominal pain, postprandial vomiting, and nausea due to duodenal obstruction, as well as, though rarely, jaundice[1]. It may coexist with duodenal cystic dystrophy and belongs with it to the spectrum of diseases that include paraduodenal wall cyst, pancreatic duodenal hamartoma, and myoadenomatosis[1–3] . Cystic dystrophy of the duodenal wall (CDDW) is characterized as a thickening of the duodenal wall containing small cystic and duct-like spaces[4] . The appearance of cystic dystrophy of the duodenum is not well researched but often explained as a complication of inflammatory foci of ectopic pancreatic tissue due to disorders of drainage of the juice produced by these foci. The incidence and prevalence of cystic dystrophy in general population is not known, however presence of chronic pancreatitis involving the entire pancreatic gland is noted in half the patients with diagnosed CDDW[4,5] .

CASE

A 36-year-old patient was admitted to the department to deepen the diagnostics of persistent severe abdominal pain episodes on the right upper abdomen since 2016. Five years earlier, he underwent two acute pancreatis (AP) episodes of unknown aetiology, and then underwent cholecystectomy. The patient underwent extensive diagnostic testing, autoimmune pancreatitis (AIP) was excluded, and an endoscopy was performed, in which significant inflammatory changes of the duodenum were described, as well as endoscopic retrograde cholangiopancreatography (ERCP) with biliary sphincterotomy (no presence of deposits in the bile ducts was shown).

Upon admission, the patient was in good condition, with slight palpation pain in the right upper abdomen, slight leukocytosis (12 x 10^3) and neutrophilia (8 x 10^3). After admission, a magnetic resonance imaging (MRI) of the abdominal cavity with contrast was performed - it showed dilatation of the common bile duct and pancreatic duct without evidence of deposits, and at the level of the pancreatic head, the wall of the duodenum was irregularly thickened with a large narrowing of the lumen and numerous cysts up to about 16 mm in size - suggesting duodenal wall cystic dystrophy. The pancreatic ducts were narrowed at the junction and evenly dilated - weakened contrast enhancement in the arterial phase in the region of the pancreatic-duodenal groove suggesting focal pancreatic tumor. Due to the obstruction of the bile and pancreatic ducts, the patient was qualified for ERCP, a stent was placed in the pancreatic duct, but due to inflammatory changes in the duodenum, access to the pancreatic ducts could not be obtained. Proton pump inhibitors and pancreatic enzymes were administered, resulting in relief of symptoms and good tolerance of oral diet - the patient was discharged home with a recommendation for re-hospitalization in 3 months. During the next hospitalization, the patient reported experiencing epigastric pain and vomiting watery contents the day before admission, and leukocytosis (13 x 10^3) was observed in the tests - the next day, ERCP was performed and the previously placed stent was replaced with 2 wedge-type stents. Despite multiple attempts, access to the pancreatic ducts could not be obtained, and the patient's dose of proton pump inhibitors was increased, resulting in further improvement of symptoms and the patient was discharged home.

PATHOGENESIS AND LOCATION:

The pathogenesis of groove pancreatitis remains unclear and it can be caused by anatomical or functional obstacles in the papilla minor, "duodenal bud," Brunner gland hyperplasia, ectopic pancreatic tissue, and other factors such as previous gastrectomy, peptic ulcer disease, or gallstones. Increased viscosity of pancreatic juice due to excessive alcohol consumption and/or smoking, leading to calcification of the pancreatic duct can also contribute to its pathogenesis.[3]

The typical location of CDDW is the pancreatoduodenal groove, which is the area between the head of the pancreas, the second portion of the duodenum, and the common bile duct.[4]

DIFFERENTIAL DIAGNOSIS:

The differential diagnosis of CDDW should include a range of diagnoses, including benign conditions such as duodenal duplication cyst, duodenal hematoma, duodenal intramural pseudocyst with underlying pancreatitis, pancreatitis with phlegmon in the groove region, or even pancreatic echinococcosis of the head or uncinate process, as well as malignant conditions such as duodenal/pancreatic adenocarcinoma and cholangiocarcinoma.[3,4]

DIAGNOSIS:

The main diagnostic methods for CDDW are MRI, endoscopy, and endoscopic ultrasound (EUS). In differential diagnosis with tumors, a transduodenal biopsy may also be helpful. In MRI, a sheet-like mass in the pancreatoduodenal groove, which leads to stenosis of the duodenal lumen and displacement of the pancreatic head, is characteristic of CDDW.[4]

A differentiating factor from pancreatic cancers is the gradual dilatation and constriction of the bile and pancreatic ducts, as opposed to cancer which causes sudden (shadow) closure of these ducts.[4]

TREATMENT:

Surgical treatment is the preferred method for patients with groove pancreatitis in cases where there is no improvement or difficulty in distinguishing it from pancreatic cancer. Treatment may include pancreaticoduodenectomy by Whipple's method or pylorus-preserving surgery. While surgical treatment seems to be the most effective, both conservative and endoscopic treatments appear to be effective in about half of patients. It is recommended to proceed with caution and engage in therapeutic measures from least to most invasive.[6] It is also crucial to stop smoking and drinking alcohol.

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writing - rough preparation: Tymoteusz Ślósarz, Rafał Kaczorowski;

writing - review and editing: Rafał Kaczorowski, Weronika Walęcik-Kot

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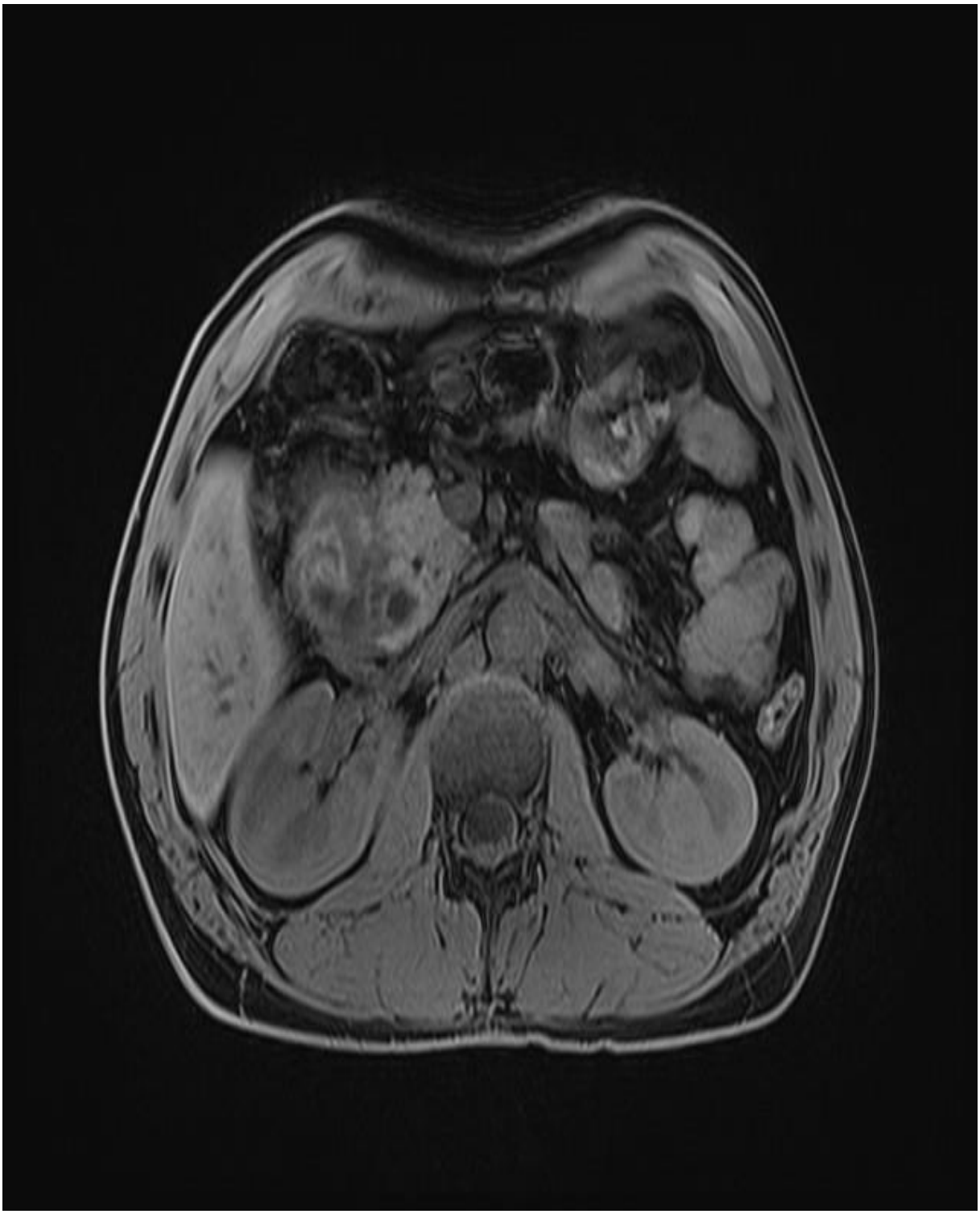

Fig. 1&2 MRI showing stenotic duodenum and cyst distributed around its lumen and groove region with ongoing inflammation