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CASE REPORT

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A Rare Form of Pancreatitis in the Emergency Department: Paraduodenal Pancreatitis

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What is known on this subject?

Paraduodenal pancreatitis (PP) is a rare pathological condition characterized by fibrotic inflammation in the pancreaticoduodenal groove, affecting the duodenal wall near the minor papilla, the adjacent pancreatic tissue, and the connective tissues in between. The exact pathophysiological mechanisms are not fully understood; however, chronic alcohol consumption and the presence of ectopic pancreatic tissue in the duodenal wall are believed to be significant factors in its onset. Patients with pancreatitis often present to emergency departments (ED) with various gastrointestinal symptoms, including epigastric pain, nausea, vomiting, and abdominal distension, as well as non-gastrointestinal symptoms such as fever, altered consciousness, tachypnea, tachycardia, and hypotension. This presentation aims to detail the diagnosis and management of a 45-year-old male who arrived at the ED with epigastric discomfort and recurrent vomiting.

What this study adds?

PP is an unusual subtype of pancreatitis marked by abdominal pain and pathological changes in the pancreaticoduodenal groove. Radiological assessments typically reveal focal thickening of the duodenal wall with cystic alterations, often accompanied by dilation of the pancreatic duct and the common bile duct. Most patients can be treated conservatively with symptomatic management alone.

ABSTRACT

Paraduodenal pancreatitis (PP) is a rare form of chronic pancreatitis characterized by a persistent inflammatory process in the pancreaticoduodenal groove, leading to ongoing abdominal pain, often accompanied by nausea and vomiting. Advances in imaging techniques now allow for diagnosis without the need for histopathological confirmation. Common radiological diagnostic methods utilized in emergency departments include abdominal ultrasound, computed tomography, and magnetic resonance imaging. This presentation focuses on the diagnosis and treatment of PP in a 45-year-old male who presented with epigastric discomfort and recurrent vomiting.

Keywords: Paraduodenal pancreatitis, emergency department, radiological diagnostic methods, epigastric pain

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Introduction

Paraduodenal pancreatitis (PP) is a rare pathological condition resulting from fibrotic inflammation affecting the duodenal wall adjacent to the minor papilla, the pancreatic parenchyma, and the intervening connective tissue (1). The underlying pathophysiology remains unclear, although chronic alcohol use and the presence of ectopic pancreatic tissue in the duodenal wall are thought to be significant contributors to its development (2). Patients with pancreatitis may present to emergency departments (ED) with a variety of gastrointestinal symptoms, including epigastric pain, nausea, vomiting, and abdominal distension. Non-gastrointestinal symptoms such as fever, altered consciousness, tachypnea, tachycardia, and hypotension may also be present. This presentation aims to describe the diagnosis and management of a 45-year-old male patient who presented to the ED with epigastric pain and vomiting.

Case Report

A 45-year-old male patient arrived at the ED with epigastric pain and vomiting following alcohol consumption earlier that evening. His medical history included pancreatitis and coronary artery disease with hypertension. Upon admission, his vital signs were stable (blood pressure 140/80 mmHg, pulse 80 beats per minute, oxygen saturation 99%, temperature 37.2 °C). During his stay in the ED, he showed improvement after receiving analgesics, intravenous fluids, antiemetic therapy, and bowel rest. Laboratory tests indicated elevated pancreatic enzymes—lipase at 274 U/L and amylase at 69 U/L—while cholestatic markers, including gamma-glutamyl transferase, alkaline phosphatase, and bilirubin, remained within normal ranges. A significant increase in glucose levels (440 mg/dL) and a slightly elevated C-reactive protein level (12.5 mg/dL) were also observed. A cardiac event was ruled out with a normal high-sensitivity troponin result (below 0.100 ng/mL) and a normal electrocardiogram.

A contrast-enhanced computed tomography scan of the abdomen and pelvis revealed a 29×19.5 mm intramural cystic lesion at the junction of the first and second portions of the duodenum, causing luminal compression. The lesion exhibited dense debris and hemorrhagic layering (Figure 1). The diagnosis was confirmed using magnetic resonance cholangiography, identifying a duodenal pseudodiverticulum secondary to chronic pancreatitis (Figure 2). Following consultations with the gastroenterology department, the patient was admitted to the gastroenterology ward. He received standard treatment for pancreatitis and was discharged with symptomatic management, along with recommendations for regular follow-up with the gastroenterology department.

Discussion

PP primarily affects middle-aged men with histories of alcohol and tobacco use; abdominal pain is a common symptom, while other symptoms often go unrecognized (3,4). In this case, the 45-year-old male exhibited epigastric pain, elevated pancreatic enzyme levels, and imaging findings consistent with pancreatitis. The predominant radiological finding in most cases is cystic lesions in the head of the

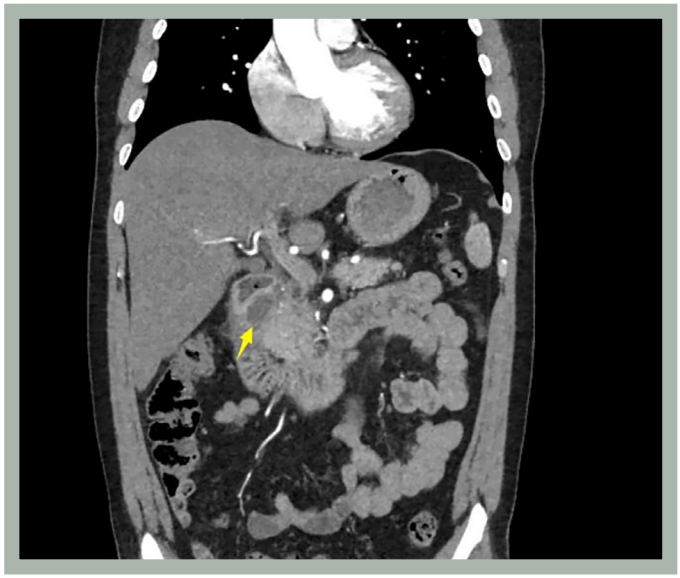

Figure 1. Abdominal tomography in coronal plane, the yellow arrow is shows the contrast enhanced 29x19.5 mm cystic lesion

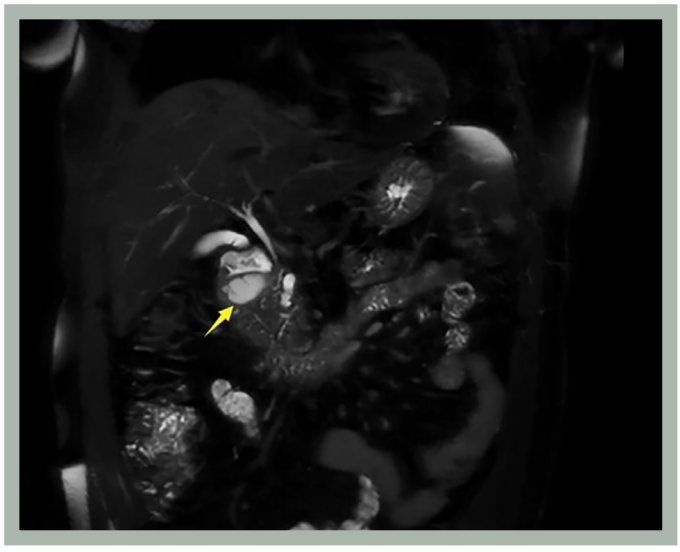

Figure 2. Magnetic resonance cholangiography in coronal plane, the yellow arrow demostrats the cystic lesion and the duodenal pseudodiverticulum

pancreas and surrounding areas, which were also evident in our patient. Previous studies have indicated that cystic lesions are common in groove pancreatitis but rare in other conditions (1,5,6). Several hypotheses exist regarding the origin of these cysts. The primary hypothesis suggests the presence of ectopic pancreatic tissue embedded within the duodenal wall. Other contributing factors may include congenital absence of the accessory (Santorini) duct, cystic obstruction of the minor papilla, and alcohol-induced increases in pancreatic secretion viscosity. In its pure form, the disease is confined to the pancreaticoduodenal groove, while the segmental form involves both the groove and the pancreatic head (7,8).

Conservative treatment with pain management is the first-line approach unless the patient develops new-onset jaundice or cholestatic obstructive symptoms. Recent studies by Lekkerkerker et al. (3) and Balduzzi et al. (9) have shown that conservative management has been effective in nearly half of PP cases, achieving success in our patient as well.

Conclusion

PP is an uncommon form of pancreatitis that presents with abdominal pain localized to the pancreaticoduodenal groove. Radiologically, the key features include focal thickening of the duodenal wall with cystic changes, along with dilation of both the pancreatic duct and the common bile duct. Most patients require only symptomatic treatment.

Ethics

Informed Consent: Written informed consent was obtained for this study.

Footnotes

Authorship Contributions

Concept: E.U., Design: H.M., Data Collection or Processing: E.U., Literature Search: H.M., E.U., Writing: H.M.

Conflict of Interest: No conflict of interest was declared by the authors.

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