A Not So Groovy Masquerader: A Case Report of Groove Pancreatitis

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A Not So Groovy Masquerader: A Case Report of Groove Pancreatitis

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Background

- Groove pancreatitis is an under recognized form of focal chronic pancreatitis which has also been referred to in the literature as paraduodenal pancreatitis, pancreatic hamartoma of the duodenum, cystic dystrophy of heterotopic pancreas, paraduodenal wall cyst, and myoadenomatosis.[1]
- First described in 1970, the pancreatic groove is a theoretical space bounded by the second portion of the duodenum laterally, the pancreatic head medially, the first portion of the duodenum or gastric antrum anteriorly, and the third portion of the duodenum or inferior vena cava posteriorly.[1]

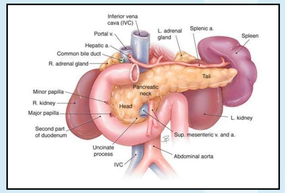

Figure 1. Anatomy of the pancreas and surrounding structures. Image by Jennifer Parsons Brumbaugh used with permission from source website.[2]

- The proposed pathogenesis involves disruption of flow through the accessory pancreatic duct creating a localized inflammatory response. Chronic alcohol use, anatomic variants, and possibly genetic susceptibility may also contribute.[1] It has also been shown that chronic alcohol consumption and smoking can increase the viscosity of pancreatic juice which can predispose the patient to stasis and outflow obstruction.[3]
- Presentation is similar to classical chronic pancreatitis, but with more pronounced post-prandial nausea and vomiting and weight loss.[1]
- Esophagogastroduodenoscopy (EGD) and endoscopic retrograde cholangiopancreatography (ERCP) can be helpful to rule out other etiologies. Biopsy is often required and should demonstrate myofibroblast proliferation and Brunner gland hyperplasia. Fine needle aspiration (FNA) will typically reveal benign or atypical inflammatory cells.[1]
- Initial treatment consists of pancreatic rest, pain control, and abstinence from tobacco and alcohol. However, surgery is often required due to recurrent, severe symptoms and the need to rule out malignancy.[1] Pancreaticoduodenectomy is the definitive cure[3] and has been shown to decrease pain and opioid dependence and result in increased body weight.[4]

Case Presentation

A 54-year-old male former-smoker with a history of chronic alcohol consumption presented to an outside hospital with complaints of refractory pyrosis and nausea three years prior to his admission to our facility. EGD demonstrated duodenal luminal thickening (Image 1) and a CT scan of his abdomen revealed duodenitis and inflammation of the pancreatic head with fat stranding. Biopsies demonstrated borderline high-grade dysplasia, but were not diagnostic for malignancy.

He was followed clinically with progressively worsening epigastric pain and weight loss. Repeat CT scan revealed an infiltrative and heterogeneously enhancing process between the descending duodenum and pancreatic head as well as atrophy of the pancreatic body and tail without ductal dilation (Image 2). Magnetic resonance cholangiopancreatography (MRCP) revealed a 2.7 x 2.3 x 2.3cm mass lesion in the same area with associated soft tissue infiltration and narrowing of the distal common bile duct (CBD) with an overall appearance concerning for malignancy.

Persistent symptoms and a 60 pound weight loss over 6 months lead to endoscopic ultrasound (EUS) which demonstrated diffuse pancreatic parenchymal abnormalities (Image 3), 10mm CBD dilation, and enlarged peripancreatic lymph nodes. IgG4 and CA-19-9 levels were within normal limits. A pancreatic duct stent was placed with transient relief.

Symptoms again progressed and repeat MRCP revealed changes consistent with acute and chronic pancreatitis with duodenal wall thickening. Duodenal biopsies demonstrated focal active duodenitis with prominent Brunner glands and FNA of the pancreatic head mass was consistent with chronic pancreatitis. Transaminases, bilirubin, and lipase were all within normal limits. At this point a working diagnosis of groove pancreatitis was established.

He remained unable to tolerate oral intake and a percutaneous gastrostomy tube with jejunal extension was placed. Despite enteral feeds he required total parenteral nutrition prior to definitive therapy with pancreaticoduodenectomy. He tolerated the procedure well and now lives symptom free without chronic pain issues and continues to regain weight.

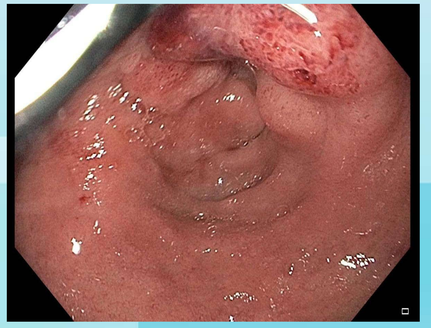

Image 1. EGD image of the duodenum demonstrating luminal thickening and duodenitis.

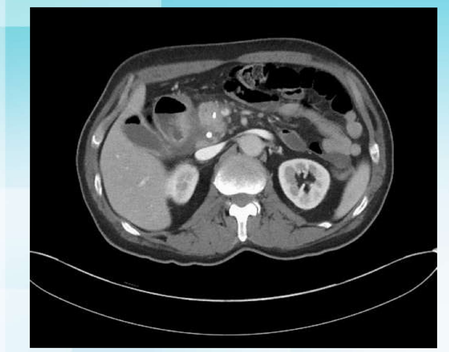

Image 2. CT slice demonstrating the infiltrative and heterogeneously enhancing mass –like lesion in the region of the descending duodenum and pancreatic head.

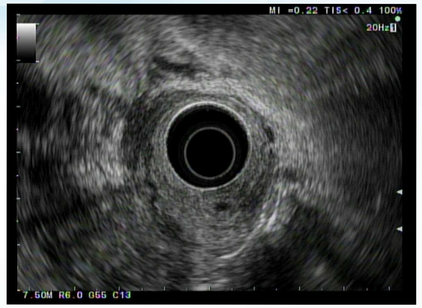

Image 3. EUS imaging demonstrating the thickened duodenal mucosa with a mass in the area of the "pancreatic groove."

Discussion:

- The true incidence of groove pancreatitis remains poorly known; and due to its under recognized nature can easily be misdiagnosed as pancreatic malignancy.[1] Cases of concomitant groove pancreatitis and pancreatic adenocarcinoma as well as "pancreatic groove carcinoma" have also been described which can further complicate management.[3,5]
- This disease entity creates a diagnostic challenge due to the radiographic "pseudotumor" appearance, gross pathologic features, and clinical presentation of groove pancreatitis which can make it "impossible" to differentiate from pancreatic adenocarcinoma.[3] Especially in the segmental form which can involve the pancreatic head.[6]
- Important distinctions seen in groove pancreatitis but less often in pancreatic adenocarcinoma include Brunner gland hyperplasia and tubular CBD stenosis, both of which were seen in our patient. An abnormal pancreatic duct, peripancreatic vascular invasion, and obstructive jaundice are less often seen in groove pancreatitis.[1,3,6]
- Our patient also demonstrates other classic risk factors and clinical findings of groove pancreatitis including alcohol and tobacco abuse, severe weight loss secondary to duodenal stenosis/GOO, a normal CA 19-9 level, and atypical inflammatory cells on FNA.
- His prolonged course to diagnosis is also quite classic for groove pancreatitis. Recent literature suggests that groove pancreatitis is actually a relatively common form of chronic pancreatitis, but diagnosis is often not made pre-operatively. It has been reported that 24.5% of patients receiving pancreaticoduodenectomy for chronic pancreatitis have groove pancreatitis.[7]
- Our patient ultimately underwent pancreaticoduodenectomy with resolution of symptoms. This procedure has become the definitive treatment of groove pancreatitis,[1,4] and both Whipple and pylorus-preserving (Longmire-Traverso) procedures have been shown to be effective.[8]

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