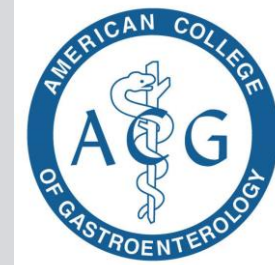




# Lemmel's Syndrome, a Rare Complication of Periapillary Diverticula



A. Battah, N. Luke, I. Farouji, T. DaCosta, R. Katamreddy, T. DaCosta Jr, Y. Bains

## Introduction

- An obstructive jaundice that occurs concurrently with the periampullary diverticula.
- No stones or tumors associated with LS.
- The obstructive jaundice can cause a build-up of pancreatic enzymes and bilirubin similar to choledocholithiasis.
- Symptoms include right upper quadrant pain, elevated liver, and pancreatic enzymes, and elevated bilirubin levels.
- The involvement of the sphincter of Oddi make it more likely to see elevated pancreatic enzymes and thus acute pancreatitis.
- The current gold standard for diagnosing LS is endoscopic retrograde cholangiopancreatography (ERCP), imaging techniques such as MRI, CT, and ultrasound may also be useful in certain cases.
- Typical treatment schedules for LS include endoscopic extraction and surgery, such as diverticulectomy, however, this is used for symptomatic patients

## Case presentation

- A 58-year-old gentleman.
- Abdominal pain, nausea, and vomiting.
- PMHx: Hx of subdural hematoma evacuations due to a head injury while snowboarding. Post-traumatic epileptic episodes
- Upon admission, fever of 101.4, and tachycardia (Pulse = 131).
- On physical exam: tender mid-epigastrium with no rebound, distention, guarding, or rigidity. Murphy's and McBurney's are also negative.
- Liver function tests: AST = 487, ALT = 365, Alk Phos = 155, and total bilirubin = 3.3.
- A CT scan of the abdomen and pelvis without contrast depicted cholelithiasis with mild diffuse gallbladder wall thickening that is concerning for acute cholecystitis. (Figure-1)



Figure-1

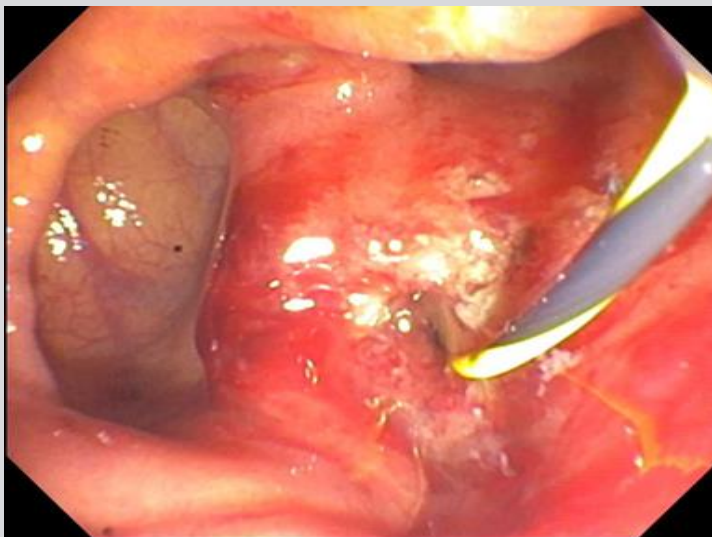


Figure-2

## ERCP:

- Upper endoscopy: The upper GI tract was grossly normal, however the normal major papilla in the descending duodenum was located entirely within a large diverticulum. (Figure-2)
- The pancreatic duct was deeply cannulated with the sphinctertome.
- A 0.035 inch x 260 cm straight Hydra Jagwire was passed into the ventral pancreatic duct. The biliary and pancreatic orifice pre-cut sphincterotomies were made with a sphinctertome using ERBE electrocautery. There was no post sphincterotomy bleeding.
- One 4 Fr by 4 cm plastic stent was placed into the pancreatic duct.
- The bile duct was deeply cannulated with the sphinctertome and contrast was injected.
- The lower third of the bile duct contained a tapered area in the distal CBD that caused stenosis. No obvious stones were visualized.
- Placement of a 0.035 x 260 cm straight Hydra Jagwire was placed into the biliary tree, and one Scientific Advanc Biliary 7 Fr by 7 cm plastic stent was placed into the common bile duct.

## Discussion:

- Periapillary diverticula (PAD) are the most common type of the duodenal diverticula with 70-75% of all duodenal diverticula. They consist of outpouching in the extraluminal part of the duodenum at 2-3 cm surrounding the ampulla of Vater.
- Most of the cases are asymptomatic diagnosed incidentally during endoscopies. Complication in 5% of the cases, such as: bleeding, perforation, diverticulitis, pancreatitis, choledocholithiasis, cholangitis, jaundice, etc.
- LS defined as hepatocholeangiopancreatic disease leading to obstructive jaundice that occurs in the absence of choledocholithiasis.
- There are different theories of how the PAD can cause LS. One of them is the chronic fibrosis that can occur secondary to diverticulitis. The other mechanism is the dysfunction of the sphincter of Oddi. Finally, it can be compressed indirectly by enterolith that formed in PAD.
- The diagnosis by CT, MRI and upper, gastrointestinal endoscopy. Though, a side-viewing endoscope during ERCP is the gold standard.
- In our case the patient presented with obstructive jaundice with cholangitis without dilatation of the biliary ducts which make the case more unique.
- Tx: Conservative management is recommended in asymptomatic patients. In patients presented with cholangitis or obstructive jaundice endoscopic extraction, extracorporeal shockwave lithotripsy, or surgery, such as a diverticulectomy or sphincterotomy with or without stent placement may be indicated depending on the case