Lemmel Syndrome due to diverticular food impaction

Juan Castano, MD[1]; Lyla Saeed, MD[1]; Martha Solis, MD[2]; Asif Zamir, MD[1].
[1]Division of Gastroenterology, University of Texas Rio Grande Valley School of Medicine-Doctors Hospital at Renaissance, Edinburg, Texas.
[2]Department of Internal Medicine, University of Texas Rio Grande Valley School of Medicine-Doctors Hospital at Renaissance; Edinburg, Texas.

INTRODUCTION

Lemmel Syndrome is a rare cause of mechanical biliary obstruction attributed to periampullary duodenal diverticula (PAD). It was first described in 1934 as obstructive jaundice in the absence of biliary stones or malignancy. The majority of PAD are asymptomatic, however, about 5% have symptomatic disease. We present a symptomatic case.

CASE DESCRIPTION

An 80-year-old woman with past medical history of cholecystectomy, coronary artery disease, hypertension, and type 2 diabetes mellitus was transferred from a free-standing emergency room to our hospital for acute pancreatitis. She had a one-day history of postprandial epigastric pain with radiation to the back. Labs on presentation included lipase above 4000 U/L, BUN 27 mg/dL, AST 316 U/L, ALT 422 U/L, ALP 292 IU/L, total bilirubin 0.6 mg/dL. Abdominal ultrasound revealed a 12 mm common bile duct with intrahepatic ductal dilatation. MRCP showed intra and extrahepatic biliary ductal dilatation with dilatated pancreatic duct and a 3.6 cm fluid-filled periampullary diverticulum (image 1). ERCP showed a large periampullary duodenal diverticulum with food impaction causing obstruction of the ampullary orifice (image 2). Entrapped food was then removed with forceps. Cholangiogram revealed dilatation of pancreatic, common bile, and intrahepatic ducts without any filling defects. Patient improved after the procedure and was discharged home.

CASE CONTINUED

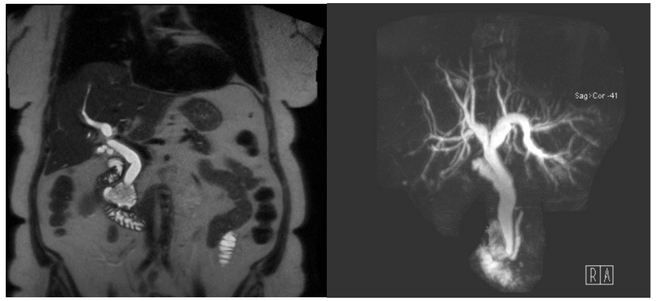

Image 1. MRCP showing intra and extrahepatic biliary ductal dilatation with a 3.6 cm fluid-filled periampullary diverticulum.

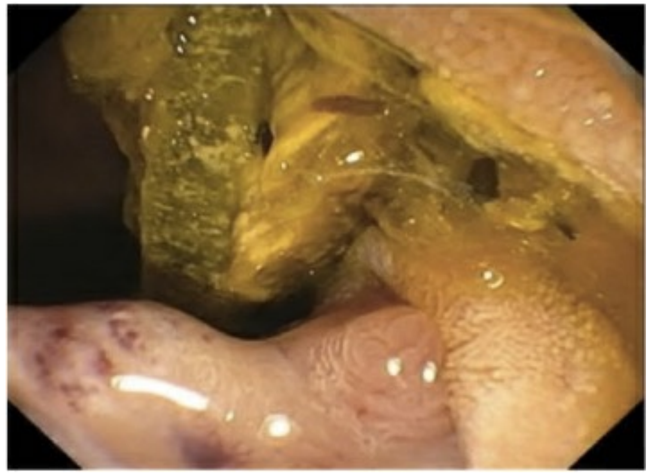

Image 2. ERCP showing large periampullary duodenal diverticulum with food impaction.

DISCUSSION

The incidence of duodenal diverticula is approximately 17% with PAD being the most common type. PADs are pseudo-diverticula most commonly found in the second part of the duodenum and pose a cannulation challenge during ERCP with an increased risk of complications. PAD presenting with biliary obstruction is known as Lemmel Syndrome. It can cause biliary obstruction by sphincter of Oddi dysfunction, direct obstruction, or via external compression by fluid or material-filled PAD. In our case, there was biliary compression due to a food-filled PAD. Cross sectional imaging is critical for diagnosis, however, ERCP is the gold standard. Several therapeutic modalities including endoscopic extraction of entrapped food or stones, extracorporeal shock wave lithotripsy, and laparoscopic diverticulectomy have been used. Our case required endoscopic extraction of diverticular food debris and adds to the limited published cases to date. Lemmel Syndrome requires a high index of suspicion when a PAD is found in the setting of biliary obstruction.

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