Lemmel’s Syndrome Documented with Endoscopic Ultrasound

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Abstract
Obstructive jaundice is a frequent for patients to come to emergency services. Lemmel’s syndrome is an obstructive biliary syndrome secondary to a papillary duodenal diverticulum for which other causes of obstructive jaundice have been ruled out. We describe a case of obstructive jaundice in an 84-year-old patient who underwent magnetic resonance imaging and biliopancreatic endosonography to rule out biliary lithiasis. Subsequently, the patient underwent ERCP where the papillary diverticulum was evident and without choledocholithiasis. A papillotomy was performed. Afterwards, the patient’s clinical evolution was favorable.

Keywords
Jaundice, Lemmel’s syndrome, abdominal pain, ERCP.

CASE PRESENTATION

We present the case of an 84-year-old patient who came to the emergency department after three days of pain in the right hypochondrium and epigastrium which radiated to the back and was associated with nausea but not vomiting. Jaundice without systemic inflammatory response or peritoneal irritation was evident in the clinical assessment. Biochemical tests showed a cholestatic pattern with direct hyperbilirubinemia. Total bilirubin was 2.70 mg/dL, direct bilirubin was 2.40 mg/dL, his alkaline phosphatase level was 265 IU/L, alanine aminotransferase (ALT) was 122 U/L, and aspartate aminotransferase (AST) was 105. Abdominal ultrasonography found that common bile duct measured 7 mm. In light of intermediate probability of choledocholithiasis, magnetic resonance cholangiography was ordered. It found postcholecystectomy syndrome, a bile duct that measured 11 mm, but not stones within the duct (Figure 1). Given that magnetic resonance cholangiography did not establish a diagnosis, it was decided to perform biliopancreatic ultrasonography. During endoscopy, a peripapillary duodenal diverticulum was evident. Ultrasound showed a dilated bile duct without calculi (Figure 2, Video 1).

While hospitalized, the patient suffered persistent abdominal pain with elevated bilirubin, so we decided to perform diagnostic and therapeutic endoscopic retrograde cholangiopancreatography (ERCP). During ERCP, a large peripapillary diverticulum was seen. Selective cannulation of the bile duct and a subsequent median papillotomy were performed which resulted in abundant bile output, without biliary sludge or stones (Figure 3).
After ERCP, the patient’s jaundice and episodes of abdominal pain resolved, the patient’s evolution was favorable, and the patient was discharged with outpatient follow-up.

**DISCUSSION**

Obstructive jaundice is a frequent reason for consultation in emergency services. First described in 1934 by Lemmel, diagnosis is based on observation of a papillary duodenal diverticulum which can cause obstructive biliary syndrome. (1) Lemmel’s syndrome is defined as obstructive jaundice in a patient for whom choledocholithiasis and other causes of biliary obstruction have been ruled out and who has a peripapillary diverticulum. The clinical picture associated with Lemmel’s syndrome can range from obstructive jaundice with abdominal pain to acute cholangitis, and can sometimes mimic periampullary tumors. (2)

Due to the infrequent occurrence of the condition, there is no clarity about the pathophysiological mechanisms that lead to appearance of symptoms. Nevertheless, multiple theories have been proposed. It is believed that the appearance of diverticulitis or irritation in the direct mechanics of the periampullary diverticulum can cause chronic inflam-
or cystic neoplasms in the head of the pancreas. (7, 8) The recommendation for asymptomatic patients is to avoid all kinds of treatment while for oligosymptomatic patients, conservative management is recommended. For patients who are clearly symptomatic who have pain or cholangitis, extraction or destruction of an enterolith or bezoar might be attempted, (9, 10) although it is usually enough to perform a papillotomy since most cases are secondary to chronic fibrous papillitis or sphincter of Oddi dysfunction as demonstrated in a recent case published in the Colombian Review of Gastroenterology. (11-13)

Although Lemmel’s syndrome occurs rarely, it should be considered in all patients who present with obstructive jaundice and a periampullary diverticulum for whom other causes of obstruction have been ruled out. Management of Lemmel’s syndrome depends to a great extent on findings from imaging and endoscopy as well as on the symptoms presented by the patient. Endoscopic management is preferred because surgical options have higher morbidity and mortality rates.

REFERENCES