

Diagnosis of Lemmel's syndrome by air insufflation during endoscopy

Souhei Tabata¹, Kouya Miyazato¹, Kunikazu Hoshino¹,
Shingo Arakaki², Akira Hokama¹, Jiro Fujita²

¹ Department of Endoscopy, Graduate School of Medicine, University of the Ryukyus, Okinawa, Japan

² Department of Infectious, Respiratory, and Digestive Medicine, Graduate School of Medicine, University of the Ryukyus, Okinawa, Japan

A 91-year-old woman presented with jaundice. She denied abdominal pain and fever. Her medical history included hypertension and ischemic heart disease. Physical examination revealed stable vital signs and no abdominal tenderness. Complete blood count showed a white blood cell count of 9000/mm³, hemoglobin levels of 11.9 g/dl, and a platelet count of 191000/mm³. Biochemical tests detected elevated levels of C-reactive protein (6.27 mg/dl [reference range, <0.14 mg/dl]), total bilirubin (3.7 mg/dl [0.4–1.5 mg/dl]), aspartate aminotransferase (263 U/l [13–30 U/l]), alanine aminotransferase (293 U/l [7–23 U/l]), γ -glutamyl transpeptidase (265 U/l [9–32 U/l]), and alkaline phosphatase (1181 U/l [106–322 U/l]). Computed tomography (CT) showed dilation of the common bile duct (CBD; 10 mm in size) and a duodenal diverticulum (36 mm in size) but no CBD stones. Due to suspicion of acute cholangitis, endoscopic retrograde cholangiopancreatography was performed. A large juxtapapillary duodenal

diverticulum was noted (FIGURE 1A), and no gallstones or tumor was identified (FIGURE 1B). The distal CBD was laterally compressed by the enlarged juxtapapillary diverticulum with endoscopic air insufflation (FIGURE 1C). This compression was resolved with air suction. Acute cholangitis caused by Lemmel syndrome was diagnosed. Endoscopic sphincterotomy was performed. No lithiasis was present, and the bile culture yielded growth of *Klebsiella pneumoniae*. The patient's condition improved with antibiotics, and she has remained asymptomatic for 2 years.

Lemmel's syndrome is defined as obstructive jaundice due to a juxtapapillary diverticulum in the absence of cholelithiasis or other detectable obstacles.¹ The following pathological mechanisms have been proposed; 1) distal CBD or ampulla can be directly compressed by a juxtapapillary diverticulum filled with food material or enterolith; 2) diverticulitis may cause chronic inflammation of an ampulla; and 3) a juxtapapillary

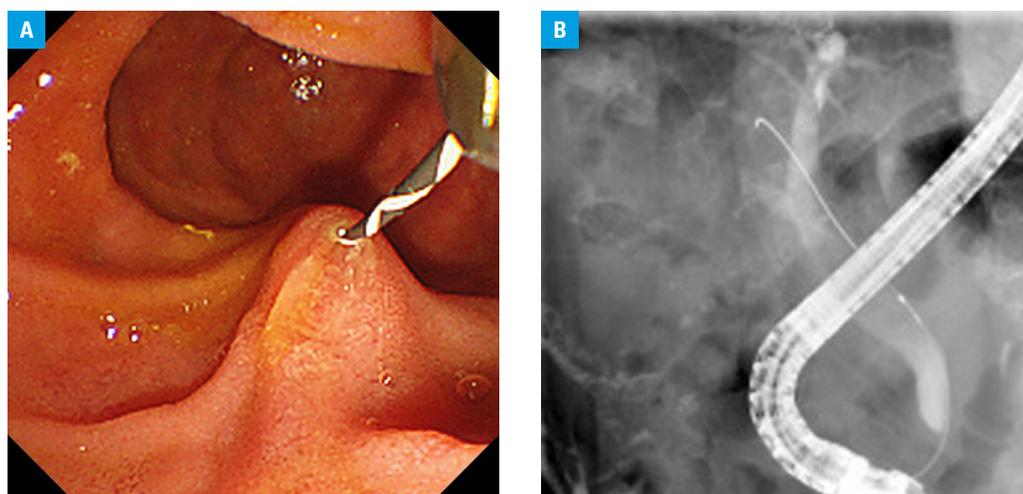
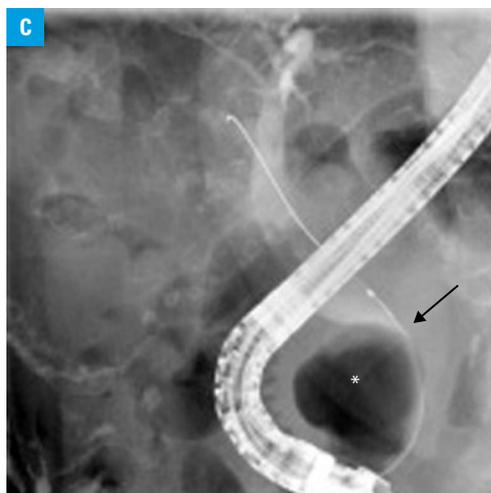


FIGURE 1 Endoscopic retrograde cholangiopancreatography imaging: **A** – a large juxtapapillary diverticulum; **B** – absence of gallstones or tumor in the common bile duct

Correspondence to:
Akira Hokama, MD, PhD, Department
of Endoscopy, Graduate School of
Medicine, University of the Ryukyus,
207 Uehara, Okinawa 903-0215,
Japan, phone: +81 98 895 1144,
email: hokama-a@med.u-ryukyu.ac.jp
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FIGURE 1

Endoscopic retrograde cholangiopancreatography imaging:
C – the distal common bile duct (arrow) was laterally compressed by the enlarged juxtapapillary diverticulum (asterisk) with endoscopic air insufflation



diverticulum may cause sphincter of Oddi dysfunction.¹⁻³ Although CT, magnetic resonance cholangiopancreatography, and endoscopic ultrasonography are safe and useful modalities in the diagnostic workup of patients with obstructive jaundice, endoscopic retrograde cholangiopancreatography allows the real-time diagnosis and treatment, as shown in this case. Preferred treatment options include endoscopic sphincterotomy and biliary stent placement, which were reported to reduce the risk of morbidity and mortality.^{1,2} In conclusion, although rare, Lemmel's syndrome should be included in the differential diagnosis of biliary stenosis if a juxtapapillary diverticulum is present.

ARTICLE INFORMATION

CONFLICT OF INTEREST None declared.

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