Intraductal ultrasonography-directed endoscopic retrograde biliary drainage without fluoroscopy

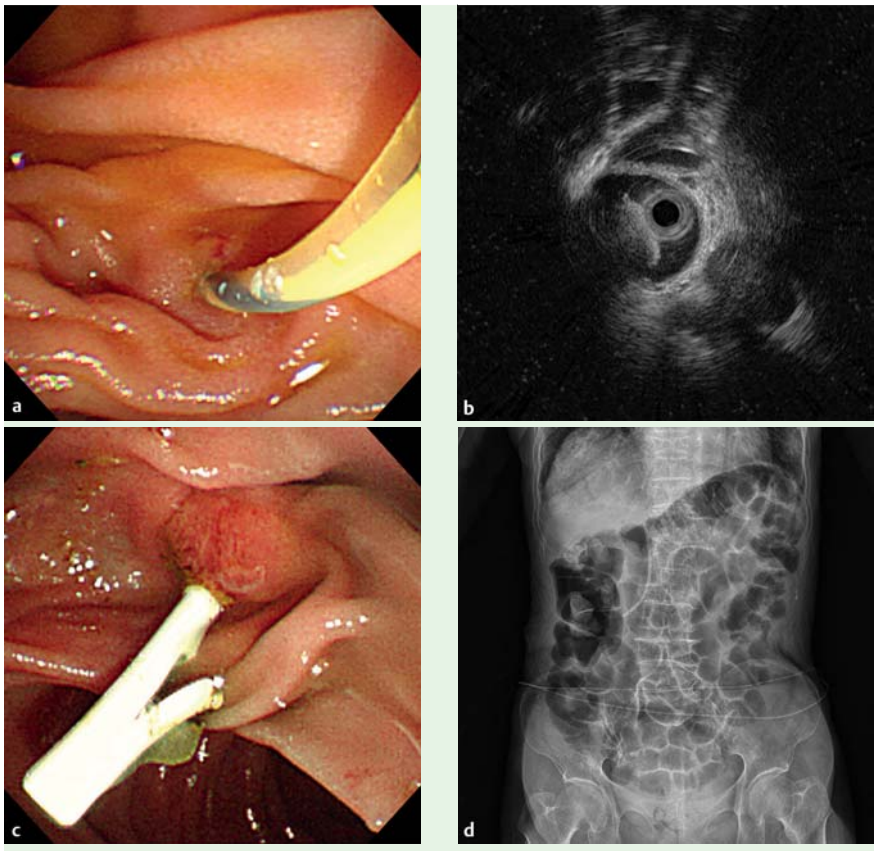

Fig. 1 Intraductal ultrasonography (IDUS)-directed endoscopic retrograde biliary drainage (ERBD) without fluoroscopy. **a** Bile aspiration after biliary cannulation. **b** IDUS views of a stone in the common bile duct. **c** Placement of stent for ERBD using IDUS without fluoroscopy. **d** Plain abdominal radiograph after ERBD insertion.

Common bile duct (CBD) stones may cause septic shock and lead to life-threatening conditions [1]. Endoscopic sphincterotomy (EST) and stone removal is an accepted method for the treatment of CBD stones [2]. EST has the potential to cause bleeding in patients with a bleeding risk. However, endoscopic retrograde biliary drainage (ERBD) can be performed effectively and safely without EST in these patients. ERBD has been performed under fluoroscopy, resulting in a relatively long duration of radiation exposure [3,4]. Intraductal ultrasound (IDUS) provides real-time cross-sectional imaging within the bile duct. IDUS can be performed without fluoroscopy. Therefore, IDUS-directed ERBD can be used to reduce the time of radiation exposure for both examiners and patients. This report describes IDUS-directed ERBD with a plastic stent without fluoroscopy in patients with a risk of bleeding.

A total of nine IDUS-directed ERBD procedures without fluoroscopy were performed. All procedures were performed using a standard side-viewing duodenoscope (TJF-160F; Olympus, Tokyo, Japan). After cannulation with a 0.035-inch guidewire (Jagwire; Boston Scientific, Natick, Massachusetts, United States), the "bile aspiration" technique was used to indicate bile duct cannulation (**Fig. 1a**) [5]. A 2.0-mm IDUS probe with a frequency of 20-MHz (UM-G20-29R; Olympus) was advanced over the guidewire into the bile duct. After images of ductal anatomy and lesions had been obtained (**Fig. 1b**), the insertion length of the IDUS probe, from the papilla of Vater to the lesions, was used to determine the length of plastic stent (Percuflex DUODENAL BEND Biliary Stent; Boston Scientific) that was required. The plastic stent for ERBD was inserted over the guidewire and placed in the correct position after withdrawal of the IDUS probe (**Fig. 1c**). The location of the ERBD stent was confirmed by plain radiography (**Fig. 1d**).

Successful intubation of the papilla, selective CBD cannulation, and appropriate ERBD were achieved in all patients (9/9, 100%). No complications were observed in any patient.

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Competing interests: None

Ji-Myoung Lee[1], Chang-Hwan Park[1], Soo-Jung Rew[2], Ha-Na Kim[1], Ho-Jun Lee[1], In-Hyung Park[1], Seon-Young Park[1]

[1] Department of Internal Medicine, Chonnam National University Medical School, Gwangju, Korea
[2] Department of Internal Medicine, Gwangju Christian Hospital, Gwangju, Korea

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Corresponding author

Chang-Hwan Park, MD, PhD
Department of Internal Medicine
Chonnam National University Medical School
42 Jebongro, Dong-gu
Gwangju, 501-757
Korea
Fax: +82-62-2258578
p1052ccy@hanmail.net