ERCP with a cap-assisted gastroscope for an intradiverticular ampulla

An 84-year-old woman with a history of Alzheimer’s dementia, hypothyroidism, and cholecystectomy presented to the emergency room with ascending cholangitis. She had undergone a percutaneous biopsy of a “liver cyst” 2 days earlier at an outside facility. Magnetic resonance imaging at our hospital showed a lobulated 6-cm cyst in segment 6/7 (▶ Fig. 1a). Other findings included a dilated common bile duct (12 mm) with choledocholithiasis and a 5-cm diverticulum in the second portion of the duodenum (▶ Fig. 1b).

During endoscopic retrograde cholangiopancreatography (ERCP), evaluation of the ampulla with a side-viewing duodenoscope revealed the large diverticulum with the major ampulla located in its rim. The opening of the ampulla pointed in an acute angle toward the diverticular lumen (▶ Fig. 2), thus making cannulation with the duodenoscope extremely difficult. Therefore, the decision was made to perform the procedure using a cap-fitted gastroscope (▶ Video 1).

The patient did not have any complications after the ERCP and was discharged 2 days later. As per the wishes of the patient’s family, no further interventions were performed to establish the histology of the hepatic lesion.

The prevalence of periampullary diverticulum (PAD) has been estimated to be around 65% among elderly patients [1]. They are usually asymptomatic, but can rarely cause biliary obstruction, pancreatitis or perforation. A PAD makes cannulation during ERCP challenging due to unusual angulation of the ampulla or inability by the endoscopist to locate it. Cannulation techniques described to approach a PAD include: percutaneous and endoscopic ultrasound-guided rendezvous, reversed guidewire, two-devices in one-channel, endoclips-assisted, double endoscope, and cap-assisted cannula-
We prefer the cap-assisted technique because of its relative simplicity. Successful cannulation of the bile duct was achieved in 100% of cases in two recent case series, although in one of them only 50% of the ERCPs were performed entirely through the gastroscope [3, 4].

Fig. 2. Ampulla pointing (arrow) toward the diverticular lumen. Duodenoscope view.

Competing interests
 None

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