Cap-Assisted Suction Eversion for Identification and Cannulation of an Intradiverticular Papilla

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A 48-year-old male presented 3 days after laparoscopic cholecystectomy with recurrent right upper quadrant pain and laboratory cholestasis. The patient underwent endoscopic retrograde cholangiopancreatography (ERCP) after endoscopic ultrasound identifying distal choledocholithiasis and a small periampullary diverticulum (PAD). Conventional ERCP confirmed the presence of a PAD with a small opening unsuitable for duodenoscope entry with the distinct localization of the papilla obscured (Fig. 1a). Albeit a small bulge at 7 o’clock was noted, duodenoscope-guided eversion maneuvers were not attempted due to an awkward angle. Therefore, we switched to a cap-fitted, double-lumen upper endoscope and applied gentle suction at the lower PAD rim, resulting in prompt exposure of the papilla (Fig. 1b). Despite adequate stabilization in the cap (Fig. 1c), initial attempts of intra-cap cannulation failed, prompting us to re-switch to duodenoscope technology. After provisions had been made to potentially switch to a clip application strategy, the papilla indeed proved to continue protruding toward the duodenal lumen. Biliary wire-guided cannulation thus succeeded at the first attempt, confirming pre-papillary bile duct stones on cholangiography (Fig. 1e). Complete stone extraction was performed after papillotomy (Fig. 1f).

PAD may pose challenges in ERCP in terms of identification and exposure of the papilla as well as adequate axis alignment [1]. While forward-viewing endoscopic approaches with or without distal attachments have been described, suction eversion of a “hidden papilla” with subsequent duodenoscopy-guided ERCP has not yet been reported and may provide another trick of the trade in successful ERCP completion vis-à-vis PAD [2, 3].
The patient has given written informed consent for publication (including publication of images).

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