

Single-session double-stent placement in concomitant malignant biliary and duodenal obstruction with a cautery-tipped lumen apposing metal stent



Fig. 1 Endoscopic ultrasonography (EUS) image showing deployment of the distal flange of a cautery-tipped lumen apposing metal stent (LAMS) in the common bile duct under EUS guidance.

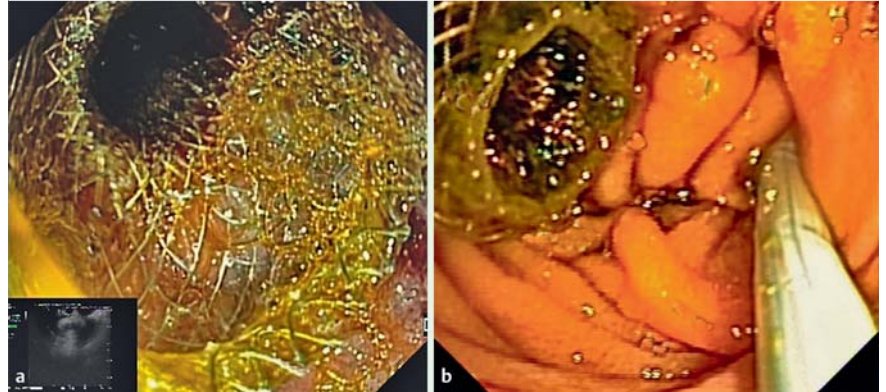


Fig. 2 Endoscopic views showing: **a** the proximal flange of the lumen apposing metal stent (LAMS) placed in the duodenal bulb; **b** the duodenal self-expanding metal stent (SEMS) delivery system being advanced through the stricture along the guidewire after the LAMS has been positioned.

Endoscopic palliation of concomitant biliary and duodenal malignant obstruction can be challenging because of difficult access to the papilla, which may consequently result in possible failure of endoscopic retrograde cholangiopancreatography (ERCP). Endoscopic ultrasonography-guided biliary drainage (EUS-BD), either before or after duodenal stent placement, has emerged as an alternative approach in these cases.

A novel cautery-tipped lumen apposing metal stent (LAMS; Hot-AXIOS, Boston Scientific Corp., Natick, Massachusetts, USA) has recently been developed for this purpose [1–3]. In this case series, we describe a new approach for the palliation of patients presenting with simultaneous duodenal and biliary obstruction based on the single-session sequential deployment of this novel cautery-tipped LAMS and a duodenal stent in patients with unreachable papilla or failed ERCP.

Four patients with unresectable pancreatic cancer (three men, one woman; mean age 63 ± 18) and one man aged 53 with a duodenal adenocarcinoma were treated. Biliary drainage was obtained by placing the LAMS by the transbulbar approach under EUS guidance in a fluoroscopy and wireless manner (▶ **Fig. 1** and ▶ **Fig. 2a**; ▶ **Video 1**). A duodenal self-expanding metal stent (SEMS; WallFlex Enteral, Bos-

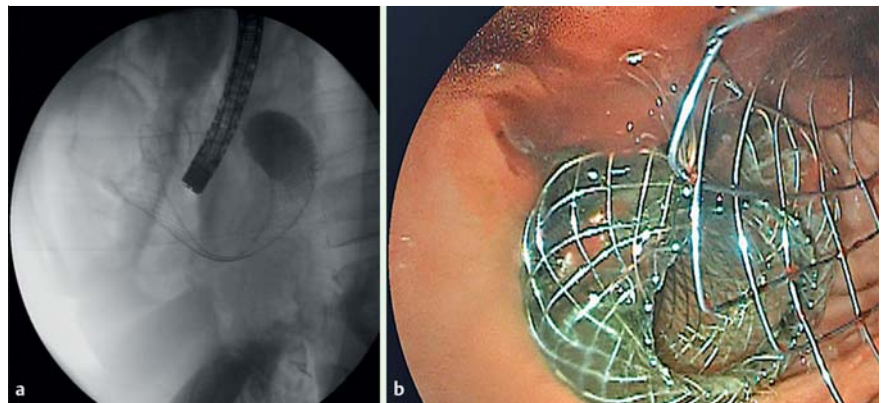
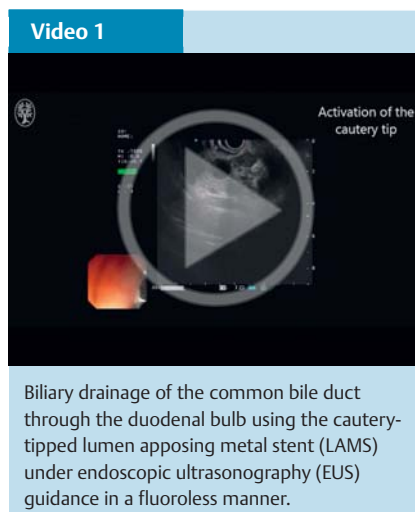
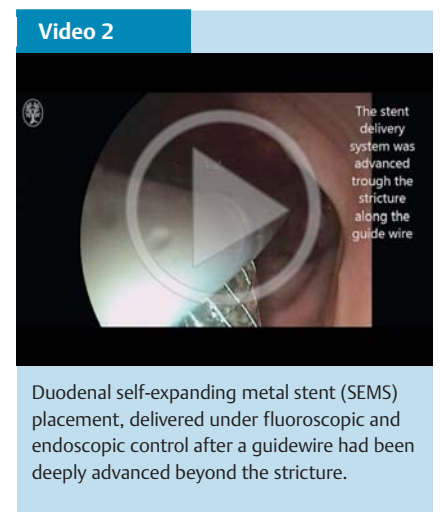


Fig. 3 Final correct positioning of the duodenal self-expanding metal stent (SEMS) and biliary lumen apposing metal stent (LAMS) is shown: **a** fluoroscopically; **b** on endoscopic view.



Video 1
Biliary drainage of the common bile duct through the duodenal bulb using the cautery-tipped lumen apposing metal stent (LAMS) under endoscopic ultrasonography (EUS) guidance in a fluoroscopy and wireless manner.



Video 2
Duodenal self-expanding metal stent (SEMS) placement, delivered under fluoroscopic and endoscopic control after a guidewire had been deeply advanced beyond the stricture.

ton Scientific) was placed, taking care to avoid overlapping the LAMS, during the same endoscopic session [4] (● Fig. 2b and ● Fig. 3; ● Video 2).

The overall technical success rate for both EUS-guided choledochoduodenostomy and duodenal stenting was 100%. The mean time for the whole procedure was 45 ± 5.7 minutes (range 38–52) and for the EUS-BD was 19 ± 0.8 minutes (range 18–20). No early or late complications were observed and the mean bilirubin level of the patients 1 week after stent placement had decreased from 14.5 mg/dL (range 11.8–18.3) to 2.9 mg/dL (range 2.1–4.9).

Our report suggests that a single-session endoscopic sequential approach for palliation of concomitant biliary and duodenal obstruction using a cautery-tipped LAMS can be proposed as a safe and effective technique in patients with an unreachable papilla due to malignant duodenal obstruction.

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Competing interests: None

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