

Application of the “covered-stent-in-uncovered-stent” technique for easy and safe removal of embedded biliary uncovered SEMS with tissue ingrowth

Removal of embedded biliary uncovered self-expandable metal stents (uSEMS) is regarded as difficult or even impossible when the duration of indwell exceeds a couple of weeks, because of the ingrowth of tissue [1–3]. The presence of diffuse and severe ingrowth is the main feature limiting SEMS removal [1]. In the esophagus, placement of a self-expanding plastic stent (SEPS) inside the SEMS has been shown to induce pressure necrosis of this tissue hyperplasia, allowing subsequent removal of the stent [4]. We applied this technique in a 58-year-old patient with a history of alcohol abuse, obstructive jaundice, and suspected malignancy, in whom an uSEMS 10 mm wide and 6 cm long (Wallflex; Boston Scientific, Natick, Massachusetts, USA) had been mistakenly inserted more than 1 year before. The patient had experienced recurrent cholangitis due to stent obstruction caused by tissue ingrowth. Stent removal was therefore considered, but was unsuccessful using conventional maneuvers. A covered SEMS (Wallflex) was then placed inside the uSEMS (• Figs. 1, 2).

The patient developed acute cholecystitis and a liver abscess, needing percutaneous drainage and prolonged antibiotherapy. Four weeks later, after resolution of the sepsis, removal of both stents was re-attempted but failed due to persistent tissue ingrowth. A new covered SEMS was inserted for another 4-week period. Endoscopic retrograde cholangiopancreatography showed spontaneous migration of the covered stent and disappearance of the tissue hyperplasia, except at the distal end of the metal stent (• Fig. 3).

Removal of the uncovered stent was, however, easy using a rat-tooth forceps (• Fig. 4).

Damage to the bile duct was checked using SpyGlass (Boston Scientific), which showed permeability and no residual stricture (• Fig. 5).

Removal of biliary uncovered SEMS is less successful than removal of covered stents (0–38% vs. 92%). We previously reported



Fig. 1 Endoscopic view of the placement of a covered self-expandable metallic stent (SEMS) inside the uncovered SEMS.



Fig. 2 Fluoroscopic view of both covered and uncovered stents in the common bile duct.

on piecemeal extraction of double uncovered Wallstents in a laborious procedure [5]. More recently we applied the “covered-stent-in-uncovered-stent” technique described for removal of esophageal SEMS in the biliary tree and showed that a period of 6–8 weeks might be appropriate for successful and less time-consuming removal.

Competing interests: None

Endoscopy_UCTN_Code_TTT_1AR_2AZ



Fig. 3 Disappearance of tissue ingrowth shown by common bile duct opacification.



Fig. 4 Extraction of the uncovered SEMS with a rat-tooth forceps.



Fig. 5 SpyGlass cholangioscopy showing permeability of the common bile duct and absence of damage after removal of the stent.

F. J. Arias Dachary¹, C. Chioccioli²,
P. H. Deprez¹

- ¹ Gastroenterology Department,
Cliniques Universitaires Saint-Luc,
Université Catholique de Louvain,
Brussels, Belgium
- ² Service de Gastro-entérologie,
Clinique St-Jean, Brussels, Belgium

References

- 1 *Familiari P, Bulajic M, Mutignani M et al.* Endoscopic removal of malfunctioning biliary self-expandable metallic stents. *Gastrointest Endosc* 2005; 62: 903–910
- 2 *Stainier L, Hubert C, Jouret M et al.* Self-expanding metallic stents in benign post-operative biliary strictures: a difficult surgical obstacle? *Hepatogastroenterology* 2007; 54: 999–1003
- 3 *Shin HP, Kim MH, Jung SW et al.* Endoscopic removal of biliary self-expandable metallic stents: a prospective study. *Endoscopy* 2006; 38: 1250–1255
- 4 *Eisendrath P, Cremer M, Himpens J et al.* Endotherapy including temporary stenting of fistulas of the upper gastrointestinal tract after laparoscopic bariatric surgery. *Endoscopy* 2007; 39: 625–630
- 5 *Lahlal M, Gigot JF, Annet L, Deprez PH.* Successful endoscopic extraction of a double uncovered expandable metal stent. *Endoscopy* 2009; 41 Suppl 2: E98–E99

Bibliography

DOI 10.1055/s-0030-1255792
Endoscopy 2010; 42: E304–E305
© Georg Thieme Verlag KG Stuttgart · New York ·
ISSN 0013-726X

Corresponding author

P. H. Deprez, MD, PhD
Gastroenterology
Cliniques Universitaires Saint-Luc
Université Catholique de Louvain
Av. Hippocrate 10
1200 Brussels
Belgium
Fax: +32-2-7648927
pdeprez@uclouvain.be