Application of the "covered-stent-in-uncoveredstent" 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 reattempted 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

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



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

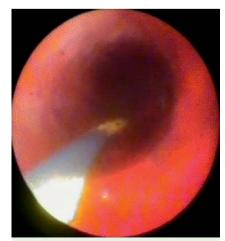


Fig. 5 SpyGlass cholangioscopy showing permeability of the common bile duct and absence of damage after removal of the stent.

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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

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