

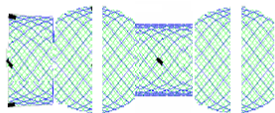
NEW ANTIMIGRATION FULLY COVERED SELF EXPANDABLE METAL STENT IN A REFRACTORY ESOPHAGEAL STRICTURE FOLLOWING CAUSTIC INGESTION

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Self-expanding metal stent (SEMS) placement is an established treatment for malignant dysphagia and an emerging therapeutic option for benign esophageal strictures. Although successful for malignant indications, the use of partially covered SEMSs in benign strictures is associated with significant disadvantages. The most important complication is hyperplastic tissue reaction of the esophageal mucosa to the bare metal mesh. The hyperplastic reaction may occur within a limited time period and could lead to the embedding of the uncovered metal wires in the esophageal wall, which may preclude safe stent removal. Fully covered esophageal SEMSs are used to avoid this complication and may constitute an attractive alternative for the treatment of benign esophageal diseases being potentially removable. However, their drawback is the high migration rate up to 40% in recent reports.

Methods: To prevent migration, a new esophageal fully covered SEMS with an increased outer resistance was designed. The antimigration system is characterized by two proximal and distal uncovered protuberances that could be embedded into the mucosa (Figure). The inner covered body prevents excessive ingrowth at the antimigration system through a compressive pressure as for the stent-in-stent technique. This novel antimigration covered SEMS has been investigated in an animal esophageal stricture model with favourable results compared to conventional fully covered SEMS (1).



Case report: We herein describe a 25-year-old woman with a refractory stricture of the prox-mid esophagus following accidental caustic ingestion successfully treated with the antimigration covered SEMS. Starting from a very strict narrow 5 mm esophageal stricture, dilation with Savary-Gillards bougies for 12 months in biweekly intervals achieved a 14 mm lumen. After an extension of scheduled intervals at 4 weeks, a severe stricture recurrence was observed and a first conventional fully covered SEMS was placed. However, this stent migrated within 1 week and was replaced with an antimigration covered SEMS with the same body diameter and length. This antimigration SEMS stayed in place for 4 weeks and was easily and uneventfully removed by foreign-body forceps pulling over a proximal retrieval lasso. A mild ingrowth by hyperplastic tissue was observed at both antimigrations bumpers; the inner covered body was undamaged.

CONCLUSIONS: The newly designed antimigration covered SEMS seems more resistant to migration than the conventional covered SEMS. Further investigation is required before recommending antimigration fully covered SEMS placement to treat benign diseases of the esophagus and to further characterize the subgroup that might benefit from these interventions.

Reference: 1) Ji JS, Lee BI, Kim HK, et al. Antimigration property of a newly designed covered metal stent for esophageal stricture: an in vivo animal study. *Gastrointest Endosc* 2011;74:148-53.