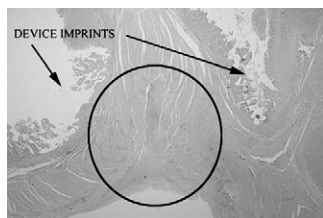


healing. Conclusions: As we move into the realm of incisionless surgery, a primary tool is the endoscopic suture or tissue anchor. The expandable shape of the USGI tissue anchors distribute the tissue holding forces thereby resisting pull-through and migration, evidenced by plication durability in this study. There did not seem to be significant differences between these two anchor shapes in inducing canine gastric tissue healing. Further study in other tissue types such as thinner colonic wall may demonstrate the utility of various endoscopic tissue anchor designs just as various suture materials and sizes are necessary in open and laparoscopic surgery.



Tissue anchor imprints and gastric muscularis remodeling.

### S1500

#### Treatment of Anastomotic Leakage and Benign Esophageal Perforation By Esophageal Or Colorectal Self-Expandable Metal Stents (SEMS)

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Background: The intrathoracic anastomotic leakage and the benign esophageal perforation carry a high morbidity and mortality. Methods: Nine patients (6 males, 3 females), mean age 58.5 years (range: 43–70) were treated for bronchoesophageal fistulas following esophagogastrostomy (3), anastomotic leaks after total gastrectomy (2), Boerhaave's syndrome (2), perforation after oesophageal dilation (1) and after a foreign body ingestion (1) by esophageal or colorectal SEMS (eSEMS or cSEMS) placement. The mean defect diameter was 2 cm. Results: A total of 10 eSEMS (9 Hanarostent with anti-reflux valve 22 × 90 mm (1), 22 × 120 (7), 22 × 160 (1) and 1 Choostent without valve 18 × 80) and 8 cSEMS (Hanarostent 24 × 90) were inserted. Oral feeding was achieved in all patients. The successful closure of the defect was obtained in 6 cases in a mean time of 40 days, by one stent insertion in 4 (eSEMS in 2 cases and cSEMS in 2 cases-1 with a double defect) and two stents insertion in 2 of them (1 eSEMS replacement and 1 longer eSEMS placed inside 1 cSEMS in the same session for a double fistula). Another patient was managed by a eSEMS placed inside 1 cSEMS in one session for the covering of a double fistula. Fifteen days after their replacement, he died from an unrelated cause to the stent insertion. In another one, 1 eSEMS was replaced due to a duodenal migration by 3 cSEMS inserted by a stent-in-stent procedure at 6-8 month intervals due to a small displacement. Two of them could not be removed due to impaction but the third one was replaced by an eSEMS for the treatment of a tracheoesophageal fistula at the upper end of the stent. An attempt for surgical repair led to his death 23 months after the first stent insertion. In the last patient, the defect was successfully covered by an eSEMS, but it was not removed due to a residual cancer until his death from a bleeding ulcer at the upper end of the stent 8 months after insertion. Mediastinal drainage was additionally performed in 4 of them. Conclusions: The SEMS placement is an efficient method of treatment for anastomotic leakage and benign esophageal perforation, including spontaneous rupture. The stent-induced complications are related to their late removal. The placement of eSEMS with valve may decrease the migration rate owing to their large diameter. Moreover, in the absence of larger or longer eSEMS, the cSEMS insertion raises the possibility of achieving a lower migration rate and a complete covering of large esophageal defects or anastomotic leaks.

### S1501

#### Endoscopic Stenting Versus Surgical Gastrojejunostomy for Palliation of Malignant Gastroduodenal Obstruction

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Objective: Palliative treatment of malignant gastroduodenal obstruction has been performed traditionally with gastrojejunostomy. Palliation with autoexpandable metal prostheses has also shown to be effective and to improve the quality of life of patients. We compared the effectiveness of conventional gastrojejunostomy with the application of an autoexpandable metal stent developed locally, for palliation of malignant gastroduodenal obstruction by evaluating clinical success, morbidity, mortality and length of hospital stay. Materials and Methods: Medical records from 80 patients with malignant gastroduodenal obstruction were reviewed: 40 patients had received treatment with the autoexpandable metal stent and 40 with gastrojejunostomy. Patients

who underwent prophylactic gastrojejunostomy were excluded. Results: Gastroduodenal stents were successfully placed in 39 of 40 (97%) patients (21 males) and gastrojejunostomy was performed in 40 patients (23 men) with obstructive tumors of the gastroduodenal tract. The gastroduodenal obstruction was secondary to gastric, gallbladder or biliary tract, pancreatic and ampullary tumors or metastatic disease. These malignancies were considered unresectable in all patients. There were no statistical differences in the origin of the obstruction, hospital mortality or survival between the treatment groups. However, time to resume oral feeding (1.6 vs 7 days) and length of hospital stay (3 vs 14 days) were significantly shorter in the group receiving the stents ( $p < 0.01$ ). Furthermore, morbidity was significantly lower in the stent group (15% vs 38%,  $p < 0.01$ ). There was a trend in a higher activity index in the stent group ( $p = 0.08$ ). Conclusions: The placement of autoexpandable metal stents was more beneficial in terms of length of hospital stay, time to resume oral feeding and morbidity than open gastrojejunostomy for the palliation of malignant gastroduodenal obstruction.

### S1502

#### Self-Expanding Metal Stents in Malignant and Benign Colonic Obstructions

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Objectives: The use of metal autoexpandable stents in acute colorectal obstruction is appropriate in three different scenarios: with palliative intention, a bridge to facilitate a future operation of definitive character and in benign colorectal stenoses. We describe a prospective follow-up of patients who received colorectal stents in these three situations. Patients and Methods: We present a prospective analysis of the outcome in 20 patients in whom 22 stents were placed (11 men, 55%), between June of 2003 and August 2007. The mean age was 71 years (range 46 to 91). All patients with malignant or benign pathology had symptoms of acute colorectal occlusion. Malignant obstruction was present in 16 patients and benign obstruction in 4 patients. The benign stenoses included ischemic ( $n = 1$ ), radiation ( $n = 1$ ) and anastomotic ( $n = 2$ ). Results: 8 stents were used for palliation, 8 preoperative stents and 4 in benign stenoses. In more proximal stenoses through the scope stents were used and in rectosigmoid stenoses (more distal) peranal stent were used, produced locally with support of Korean technology. There was clinical success in 18 patients (90%). Complications included stent migration ( $n = 4$ ), obstruction ( $n = 2$ ) and perforation ( $n = 2$ ). There was one failure to place a peranal stent in one patient due to descending colon location. All the patients with benign stenoses were treated successfully with the application of the stent avoiding a definitive colostomy. A patient died after a colonic perforation, she didn't accept the surgery. Conclusions: The use of stents as a palliative procedure or as a bridge to surgery is associated with low morbidity, allows bowel preparation, and thus avoids the need for a temporary or definitive colostomy. Long-term patency suggests that stents may lead to avoiding an operation in patients with metastatic disease and further defines their role in the palliation of malignant obstruction and its application in benign pathology is equally encouraging. Further prospective randomized studies are necessary to fully elucidate the use of stents in the management of colorectal cancer and benign colorectal obstructions.

### S1503

#### Expandable Nitinol Stent for Treatment of Malignant and Benign Esophagorespiratory Fistulas

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Objective: Esophagorespiratory fistulas are complications of malignant esophageal tumours and bronchogenic cancer, and they are difficult to manage. The efficacy of polyurethane-covered nitinol stents for management of malignant and benign esophagorespiratory fistulas were analyzed prospectively. Patients and Methods: Twenty one patients (16 males-76%) with esophagorespiratory fistulas were treated with nitinol stents. The lesions were located in the proximal ( $n = 2$ ), middle ( $n = 16$ ) and distal ( $n = 3$ ) esophagus. All patients suffered from dysphagia for liquids and solids. Stents were produced in Medellín-Colombia with Korean technology endorsement. Results: There were no technical problems during endoscopic implantation of the stents. Completed sealing of the fistula was confirmed the following days by gastrografin swallow x-ray. Dysphagia improved significantly. All nitinol stents showed a sufficient expansion within 24-48 h after placement. Severe early or late complications were not encountered, with the exception of tumour overgrowth in three patients and two stent migrations. In eight patients short term (3-6 days) retrosternal pain was observed, and three patients complained of slight foreign body sensation. Ten months later all 18 patients with malignant fistula had died of advanced disease, with a median survival time of 96 days (range, 17–266 days). In three patients with benign fistula after myotomy for achalasia, laparoscopic fundoplication and gastric bypass for obesity, the stent placement allowed closure of the fistula within 4 months. Conclusions: Polyurethane-covered nitinol stents are highly effective for palliative treatment of