Palliative treatment of malignant esophageal, esophagogastric junction and Anastomotic strictures with self-expandable stents

Esophageal stenting has been shown to be a convenient and long-lasting method of palliation for malignant dysphagia. Use of covered self-expandable metal stents (SEMS) and, more recently, self-expandable plastic stents (SEPS) has led to increased success rate in the palliative treatment of malignant strictures of the esophagus. Experience with SEPS is scant. We report our experience with the use of stents, especially SEPS, for relief of malignant dysphagia.

During the period September 2001 to December 2005, 60 consecutive patients (32 men) with malignant esophageal, gastro-esophageal junction and/or anastomotic strictures were recruited into the study. Before referral, all patients had physical examination, routine laboratory tests, contrast swallow, chest radiograph, and CT scan of the chest and upper abdomen. Esophagoscopy or esophagogastroscopy (if possible) with biopsy was also performed to establish the diagnosis and for evaluation of the site of strictures. Dysphagia was scored before stent insertion, 3 days after deployment, and on follow up, using a standard scale. All strictures were dilated with Savary-Gilliard bougies (Wilson Cook) up to 15 mm before stent deployment, except in those with tracheo-esophageal fistula. All procedures were carried out using fluoroscopic guidance and sedation. In 12 patients covered metallic Wallstent (Boston Scientific, USA), in one case double-lumen metallic stent (Taewoong, Korea), and in 47 patients removable polyflex stent made of polyester weave with silicon coating (Rusch, Germany) was used. All patients were hospitalized for 12 hours after the procedure.

Mean age of the patients was 65.5 (SD 9.0) years. Mean duration of dysphagia before stenting was 10.1 (6.5) months. Sites of strictures were: upper third of esophagus (up to 23 cm from incisura) 3 (5%), mid esophagus (23-32 cm), 18 (30%), lower third 20 (33.3%), cardia 17 (28.3%), and mid and lower third 2 (3.3%). Indications for stenting were: recurrence of squamous cell carcinoma (SCC) after chemoradiotherapy 28 (46.7%), primary SCC of the esophagus 8 (13.3%), tracheo-esophageal fistula 2 (5%), fibrotic stricture following surgery or irradiation 4 (6.7%), adenocarcinoma of cardia 18 (28.3%).

Stents were successfully deployed in all patients. Dysphagia improved significantly with all stent types after 3 days and during follow up (to grade 0 in 17 and grade 1 in 43 patients). Dysphagia score with weighted mean (SD) in pre- and post-stenting states were 3.03 (0.41) and 0.72 (0.45), respectively. Duration of follow up was up to 24 months (mean 7.6 [6.6] months) from deployment. Four patients were not available for follow up. One patient with post-radiation fibrotic stricture died 4 days after stenting from aspiration pneumonia. Distal migration of stent was seen in 16 (26.6%) cases 1-5 months after insertion (2 Wallstents [16.7%] and 14 polyflex stents [29.8%] [p<0.02]). Polyflex stents were repositioned by using a snare in 4 cases; migrated stents were manipulated with a snare, retrieved and removed, followed by new stent insertion in 6 cases, and a second stent inserted through the first one in 4 cases. Tumor overgrowth occurred in four cases. Massive bleeding occurred in a patient with adenocarcinoma recurrence 1.5 months after a double-lumen stent placement; he underwent thoracotomy. Fifty-six patients survived the follow-up period, all without progression of grade of dysphagia. In no case was death directly attributable to the procedure.

Technical success rate and functional rate of 100% has been achieved with SEMS as well as SEPS. In our study technical success rate was 100%, and functional success rate was significant with both SEMS and SEPS after 3 days and during follow up.

The most frequent complications are stent dislocation and stent obstruction due to food impaction or tumor in-growth, bleeding, perforation and fistula formation. Procedure-related complication rate with SEMS was 24.3% in one study, including 3 cases of distal dislodgement. In a study with SEPS in patients with benign lesions, only one severe complication (tracheal compression) was observed. However in another study with SEPS, complications were seen in 18/39 patients, including stent migration in 8 patients. Many of the complications can be managed endoscopically. Recently designed stents, including polyflex stents, can be retrieved and repositioned after migration. In our experience distal migration was significantly greater with polyflex stents than with metal stents.

In conclusion, self-expandable plastic as well as metal stents have good efficacy in palliating dysphagia. Both types can be placed successfully in the majority of patients, and their insertion is easy, reliable, and associated with low rate of morbidity and mortality.

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References


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