Esophageal Stent: an Essential Tool in the Treatment of Complex Esophageal Disease

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OBJECTIVE

To assess the role of esophageal stenting in treatment of esophageal disease.

METHODS

Retrospective chart review and a follow-up symptomatic questionnaire via phone.

RESULTS

From 03/05/2010 to 11/24/2015, 105 esophageal stents were placed in 41 patients. Values are presented as median and interquartile range (IQR). There were 28 males and 13 females with median age of 66 years (56-71). The ASA classification was 3 (3-4). The median number of stents per patient was 1 (1-3). The median length of stent was 14 cm (10.5-15.5) and the diameter was 23 mm (18-23). There were 99 procedures for placement and repositioning with median number of 1 (1-3) per patient. 83 were performed under general anesthesia and 16 with monitored anesthesia care. All were placed under fluoroscopic guidance. The duration of the procedure was 31 minutes (22-39). Stent in stent was used in 18/99 (18.2%) procedures.

Out of 105 stents, 34 were Endochoice and 71 Boston Scientific: 66. Waviflex and 5 Polyflex. The 66 Waviflex stents included 43 partially and 24 fully covered. Overall, there were 63 fully and 42 partially covered stents. The indications for stent placement are shown in the table. The complications included migration of the stent into the stomach in 22/105 (21%), stricture caused by mucosal damage incurred following removal of the partially covered stent in 2/41 (4.9%) patients, tracheoesophageal fistula in 1/41 (2.4%) in a patient with esophageogastic anastomotic leak, and aorto-esophageal fistula in 1/41 (2.4%) in a patient with esophageal perforation.

Repositioning was required in 7/41 (17%) patients. All migrated stents were removed transorally. Predictors of migration were male gender (OR 7.5, p<0.03) and use of a fully covered stent (OR 5.6, p<0.04).

The median duration of treatment from the first stent placement to removal of last stent, time of death, or time of questionnaire if stent was still in place was 15 months (1-3). There were two 30-day mortalities, 1 caused by aorto-esophageal fistula and 1 by heart failure.

At the time of follow-up symptomatic questionnaire via phone, there were 11 deaths: 2 were related, 1 was due to tracheoesophageal fistula caused by the stent, which was placed for the treatment of anastomotic leak and 1 due to anastomotic leak and sepsis. The questionnaire was completed in 21/30 (70%) patients at 14 months (3-25). It was reported that while the stent was in place, 11/21 (52%) were asymptomatic. The primary symptoms were regurgitation in 5/21 (24%) followed by chest/epigastric pain in 4/21 (19%). All patients with chest/epigastric pain required narcotic medication. Regurgitation was significantly more common in females (7/10) vs. males (1/11, p<0.008). PPI was used in 12/21 (57%), 14/21 (67%) were able to eat as desired and 14/21 (67%) were able to perform daily activities while stent was in place.

At the time of questionnaire, 18/21 (86%) were free of dysphagia, 19/21 (90%) were free of regurgitation, 19/21 (90%) were free of heartburn, 20/21 (95%) were free of chest/epigastric pain, PPI was used in 6/21 (35%), 18/21 (86%) were able to eat as desired, 18/21 (86%) were free of preoperative symptoms, 17/21 (81%) were satisfied with stent placement.

CONCLUSIONS

Esophageal stent is an essential tool in the treatment of complex esophageal disease and provides adequate treatment in the majority of cases, potentially preventing further surgical intervention. The most common complication is migration, more commonly in males and with fully covered stents. The main symptom is regurgitation, which is more common in females, followed by pain requiring narcotic medication. The possibility of fistula to the aorta or the trachea should be considered for stents in the thoracic esophagus.