

# Study examines self-expanding plastic stents in the treatment of benign esophageal conditions

January 25 2008

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Researchers from Mayo Clinic in Rochester, Minnesota, recently examined the use of self-expanding plastic stents (SEPSs) in the treatment of benign esophageal disease and found that use of SEPSs resulted in frequent stent migration and few cases of long-term improvement. They concluded that further investigation is warranted to identify optimal patient populations and to guide future recommendations for the use of SEPSs. The study appears in the January issue of *Gastrointestinal Endoscopy*, the monthly peer-reviewed scientific journal of the *American Society for Gastrointestinal Endoscopy*.

Benign esophageal lesions such as strictures, perforations, and fistulae have a significant impact on patient well-being and are associated with the complications of malnutrition, pain, aspiration, respiratory decline, and death. In the past, the majority of refractory benign esophageal strictures were caused by chronic peptic irritation; however, with aggressive treatment of reflux disease, nonpeptic causes currently predominate. Esophageal stenting is a minimally invasive intervention that has been used as a treatment for expansion of stenoses and closure of perforations and fistulae. Self-expanding metal stents (SEMSs) are the current endoscopic standard for palliation of dysphagia resulting from malignant esophageal stenosis. SEMSs have also been used with variable success in the treatment of benign strictures.

Self-expanding plastic stents have been proposed for use in benign

esophageal lesions because of their advantages over metallic stents, including lower cost, ease of placement and retrieval, and limited local tissue reaction while still providing alleviation of dysphagia. Previous reviews of the performance of SEPSs with limited numbers of patients have shown good success with resolution of benign stenosis and fistulae with few adverse effects.

“In our study of self-expanding plastic stents, migration occurred in more than 60 percent of all patients and of all stents placed,” said the study’s lead author Todd Baron, MD, FASGE, Mayo Clinic, Rochester. “Stent migration rates were not influenced by dilation at the time of stent placement or stent size. Although stent placement typically resolved the patient’s symptoms initially, long-term resolution was infrequent in our study group. Only six percent of all procedures provided long-term resolution of symptoms after stents were removed.”

## Patients and Methods

This study was a retrospective review of cases of benign esophageal lesions in which a self-expanding nonmetallic Polyflex stent was placed at the Mayo Clinic, Rochester, from 2002 to 2006.

Thirty patients underwent at least one attempted SEPS placement. Nineteen patients were male and 11 were female, with an average age of 52.1 years. Twenty-two stents were placed in eight patients for benign strictures. Twenty-five stents were placed in 11 patients for anastomotic stricture after esophageal surgery. Twenty-two stents were placed in nine patients for esophageal fistulae or anastomotic leak. Fifteen stents were placed in five patients, and one stent placement was unsuccessful in one patient for radiation-induced strictures. A total of 83 stent placements were performed over the five-year period.

Overall, complications were minor and did not interfere with subsequent

treatment. The most common initial complaints included chest pain, neck discomfort, and dysphagia (in 23 procedures) and nausea and vomiting (in eight procedures) and were managed with analgesic and antiemetic medications. Symptoms resolved within three days in most cases.

## Results

Stents remained in place for an average of 53 days. Patients had symptomatic improvement initially in 77 of 83 stents placed (92.8 percent), three of 83 stents placed resulted in no symptom improvement, and three of 83 stents placed are awaiting follow up information. Stents were removed after several months if the patient's symptoms remained alleviated or earlier if symptoms recurred, stent migration was noted, or complications developed. One stent was removed because of excessive granulation tissue formation. Migration was a frequent occurrence, noted in 18 of 29 patients (62.1 percent) and 53 of 83 stents placed (63.9 percent), whereas 21 of 83 stents placed remained in stable position (25.3 percent), four patients died with stents in place (unrelated to the stent), two patients have two stents still in place each, and one patient has a single stent still in place. These patients are awaiting follow-up.

Stent migration was typically accompanied by recurrence of symptoms and was noted more frequently in patients with proximal (30/44 stents, 68.2 percent) and distal (19/27 stents, 70.4 percent) esophageal lesions compared with mid-esophageal (3/10 stents, 30percent) location. Stent migration was defined either as radiographic evidence of the stent within the stomach or endoscopic visualization of the stent having moved from the initial placement location, or both. Success was defined as resolution of dysphagia and closure of the fistula or leak as seen on endoscopy or barium study.

Only six percent of procedures resulted in long-term symptom

improvement at follow-up after the stent was removed, whereas 81.9 percent resulted in recurrence or persistence of symptoms.

Source: American Society for Gastrointestinal Endoscopy

Citation: Study examines self-expanding plastic stents in the treatment of benign esophageal conditions (2008, January 25) retrieved 6 May 2024 from <https://medicalxpress.com/news/2008-01-self-expanding-plastic-stents-treatment-benign.html>

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