Introduction

- Esophageal perforation is a rare entity, but complex clinical emergency that carries a high morbidity and mortality rate. The etiology is typically iatrogenic or spontaneous [1-3].
- The treatment of esophageal perforation is dependent on multiple factors including etiology, time of diagnosis and site of perforation [3]. However, for all treatment options, feeding access and gastric decompression remain a problem [4].
- We present a hybrid approach of endoscopic and fluoroscopic guided EndoVive® GJ-tube placement within two days after initial management of an esophageal perforation.

Methods

Patients:

- The patients selected for this cohort were admitted to the thoracic surgery service for iatrogenic or spontaneous thoracic esophageal perforations.

EndoVive® Enteral Access Devices:

- The EndoVive® (Boston Scientific, Natick, MA) enteral access devices was used for our cohort of patients. [5] The patients in our cohort had percutaneous endoscopic gastrostomy (PEG) 24F tube placed during initial interventions. Figure 1: Within two days after PEG tube placement the patients are then sent to IR for jejunal feeding access.

Technique:

- The gastric body is insufflated via the indwelling gastrostomy tube. Under fluoroscopic guidance, suture gastropexy anchors is placed and the gastric body is insufflated via the indwelling gastrostomy tube. Under fluoroscopic guidance, contrast is injected to confirm position (Figure 2B). Contrast and air is injected to confirm position (G).

Results

- Table 1 highlights the patients demographics in this cohort.
- Two patients suffered perforations iatrogenic from esophageal dilations. Four patients suffered spontaneous perforations.
- Three patients had esophageal stents placed crossing the perforations and the GEJ.
- All the patients in the cohort, within two days after initial management of the perforation, had a transgastric jejunal feeding tube placed via fluoroscopic by the IR team without difficulties.
- All the patients intraoperatively did well and post-operatively tolerated enteral feeding.
- All the patients in this cohort did not have any events associated with the GJ-tube, in terms of migration, occlusion or dislodgement.

Discussion

- For patients with an esophageal perforation, maintaining gastric decompression and post-pyloric feeding access shortly after initial management of esophageal perforation.
- Surgical placement of GJ-tubes can extend a patient’s length of hospital stay, delay enteral feeds and increase complications associated with parenteral nutrition.
- The primary advantage of the hybrid method of endoscopic and fluoroscopic placement of GJ-tube is to provide distal feeding access and gastric venting without laparoscopy or laparotomy.
- Another advantage of the EndoVive® enteral feeding device is that the transgastric pigtail catheter can be placed under fluoroscopy via the PEG tube lumen. This method can accomplish gastric decompression and distal feeds with one site of intraluminal access.
- While the procedure is safe and relatively short, the institution needs a robust IR team. A collaboration between the thoracic surgery and IR services was able to successfully facilitate an institutional protocol for placement of GJ-tubes for thoracic esophageal perforations.

References


Figure 1: The EndoVive® Through-the-PEG (TTP) 12F J-tube is only compatible with the 24F PEG tube. The TTP J-tube catheter can pass through the established PEG tube lumen. The TTP J-tube device can be a 3-port that can provide gastric decompression and post-pyloric feeds.

Figure 2: Under fluoroscopic guidance, contrast is injected to confirm intragastric location and suture gastropexy anchors are placed (A). A Glidewire and a French catheter is advanced distal to the LOT via the indwelling G-J-tube placed prior intraoperatively). After removal of the catheter and serial dilation, a 12 French, 45cm multipurpose pigtail catheter is advanced past the LOT (B). Contrast and air is injected to confirm position (G).