

Proximal Esophageal Anchored Stent: A Successful Endoscopic Approach in A “Troublesome” Location

Granata A¹, Amata M^{*}, Monte LD², Ligresti D¹, Traina M¹ and Bertani A²

¹Digestive Endoscopy Service, Department of Diagnostic and Therapeutic Services, IRCCS-ISMETT, Palermo, Italy

²Division of Thoracic surgery and Lung Transplantation, Department for the Treatment and Study of Cardiothoracic Diseases and Cardiothoracic Transplantation, Palermo, Italy. IRCCS-ISMETT, Palermo, Italy

*Corresponding author:

Amata Michele,
Digestive Endoscopy Service,
Department of Diagnostic and Therapeutic Services,
IRCCS-ISMETT, Palermo, Italy,
Fax: +39-091-21 92 400 (specify Endoscopy Service),
E-mail: michele.amata@gmail.com

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1. Case Report

A 71-year-old woman was admitted for the surgical treatment of a pulmonary adenocarcinoma of the right upper lobe. During anesthesia induction, a left Robertshaw endotracheal tube (ETT) was inadvertently placed in the esophagus. After successful bronchoscopic ETT repositioning, the patient underwent an uneventful VATS (Video-Assisted Thoracoscopic Surgery) right upper lobectomy and lymphadenectomy. High-flow (>1liter) output of particulate white fluid through the chest tube was noted on first post-operative day (POD). In the suspicion of chylothorax, an exploratory esophago-gastroduodenoscopy and VATS were performed and a 4-cm longitudinal tear of the posterior wall of the esophagus was found just below the thoracic inlet. The lesion was repaired with a double layer, interrupted 4-0 polydioxanone suture and the chest drained.

On POD#7, a barium swallow showed adequate resolution of the fistula. Nevertheless, after initiation of oral intake, the patient developed fever and dysphagia. Endoscopy showed a minimal, 2-mm residual esophageal dehiscence located 2 cm under the cricopharyngeal sphincter, and a CT-scan (Figure 1) showed a residual upper mediastinal collection. Immediate endoscopic clipping of the fistula was attempted but failed due to inadequate margin apposition.

After multidisciplinary discussion and despite the very proximal lo-

cation of the lesion, a fully-covered self-expandable metal stent (FC-SEMS, 80x20 mm; Niti-S, Taewoong Medical, South Korea) was deployed in the esophagus and centered on the fistula. In order to avoid distal migration, the proximal end of the stent was sutured to the esophageal wall, just below the cricopharyngeus, using the OverStitch Endoscopic Suturing System (Apollo Endo-surgery, Austin, Texas) (Video). The FC-SEMS was left in place for two months and allowed complete resolution of the fistula. It was then removed endoscopically using a novel cutting device (Ensizor Flex, Austin, Texas) (Figure 2). The final examination revealed definitive healing of the esophageal wall (Figure 3). The patient is alive and well at 11-months follow-up.

Esophageal perforation is a rare life-threatening complication of orotracheal intubation, occurring more frequently after difficult cases and double-lumen tube placement, which is a stiffer and sharper device than a standard, single-lumen tube [1, 2]. Endoscopic management of esophageal perforations allows avoiding repeated surgical revisions in patients who are often infected and debilitated. Esophageal lesions located in the proximal esophagus may be very difficult to approach with endoscopic techniques. Endoscopic stenting and anchoring with endo suturing systems may overcome these limitations and may be a further important tool for the interventional endoscopist.

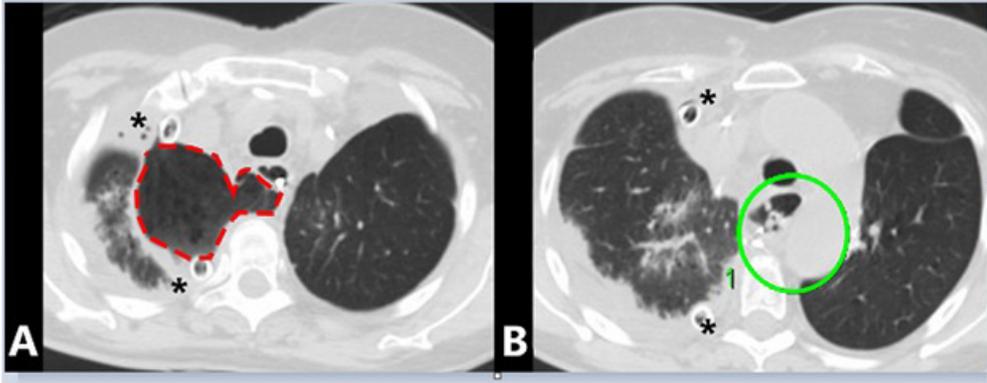


Figure 1: Thoracic CT scan showed a large upper mediastinal collection (67x74 mm in diameter – red dashed line) (A) secondary to an iatrogenic tear (green circle line) of the esophageal wall (B). The asterisk points at two chest tubes in place.

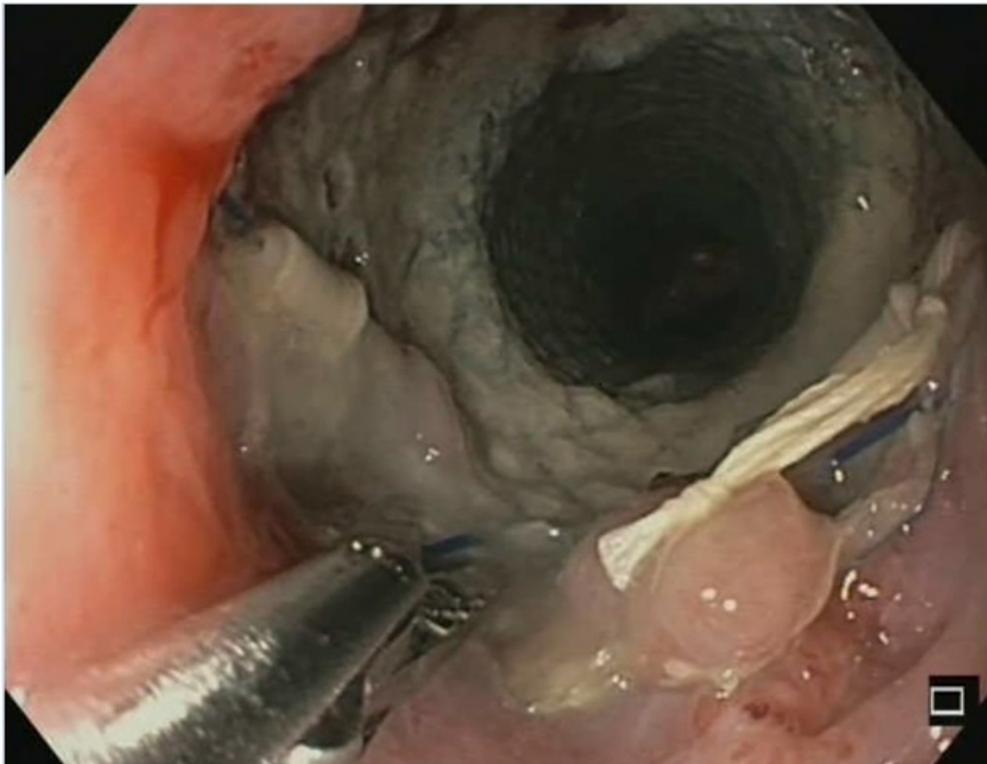


Figure 2: A flexible and fully rotating endoscopic scissor device, using the rigid and thin blades, allows cutting the full-thickness sutures for a safe removal of the stent.

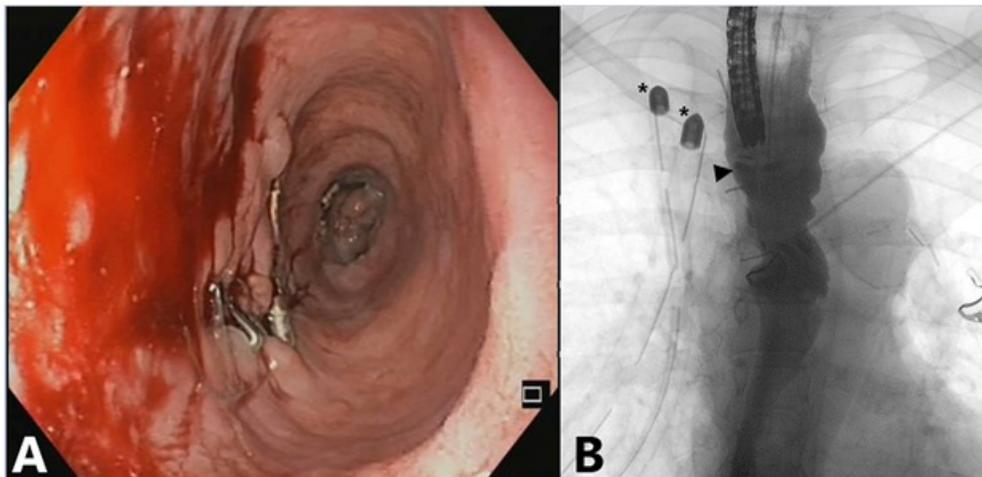
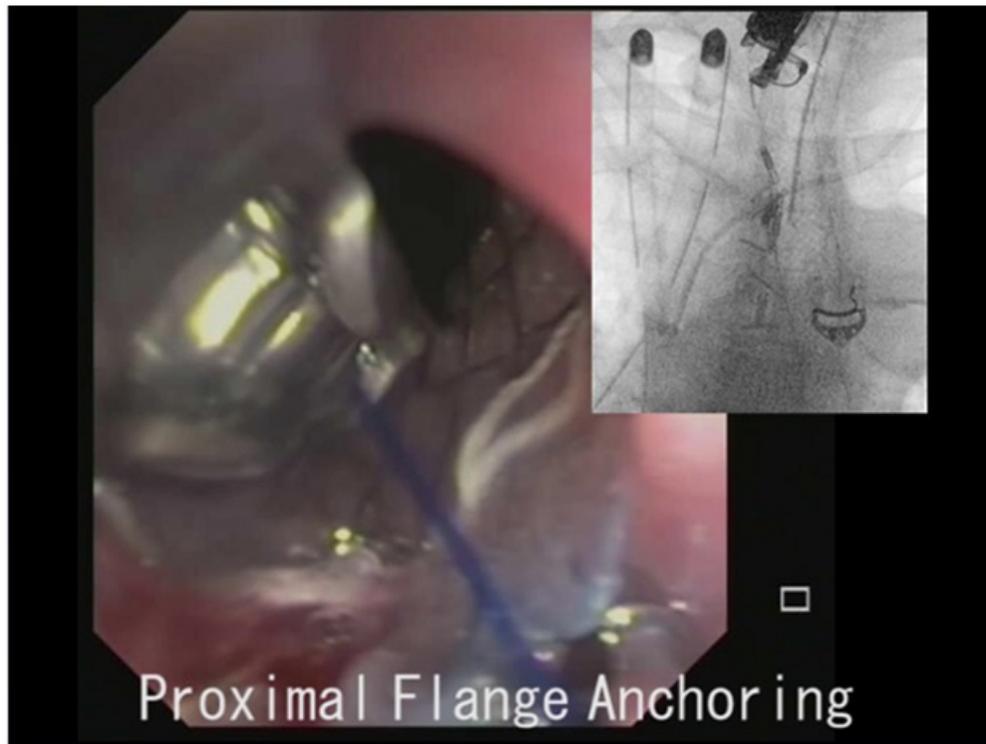


Figure 3: Final endoscopic evaluation (A) and contrastography (B) confirmed the healing of the esophageal wall and the regular passage of the contrast dye (asterisk: drainages – arrowhead: perforation area).



Image_steel

2. Video Steel

Iatrogenic perforation of the proximal esophagus, located approximately at 21 cm from the incisors, successfully treated with endoscopic stent placement.

3. Video Text

- Esophageal perforation, endoscopic clip, esophageal lumen
- Distal FC-SEMS placement
- Cranial mobilization of the FC-SEMS
- Cricopharyngeus
- 80x20 FC-SEMS, Clips, Drainage
- Proximal flange anchoring
- First cinch deploy
- Second cinch deploy
- Final endoscopic view
- Final fluoroscopic view, No contrast leak
- The stent was left in place for 2 months
- CT scan confirmed resolution of the mediastinal collection
- FC-SEMS correctly in place, Drainage
- Removal of the anchored FC-SEMS
- Endoscopic scissor
- Final result

References

1. Min JJ, Lee JH, Kang SH et al. The Fast and Easy Way for Double-Lumen Tube Intubation: Individual Angle-Modification. *PLoS One*. 2016; 11: e0161434.
2. Jougon J, Cantini O, Delcambre F et al. Esophageal perforation: life threatening complication of endotracheal intubation. *Eur J Cardiothorac Surg*. 2001; 20: 7-10.