

## Closure of a Large Postintubation Tracheoesophageal Fistula Using a Covered Self-Expandable Stent

### *Büyük Postentübasyon Trakeoözofagial Fistüllerin Kendiliğinden Genişleyen Kaplı Stentler Kullanılarak Kapatılması*

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#### To the Editor,

Esophageal stent placement can be used as a bridge to surgery for tracheoesophageal fistula (TEF) management. From 2011 through 2013, at our institution, 2 patients underwent esophageal stent placement for postintubation TEF.

#### Case 1.

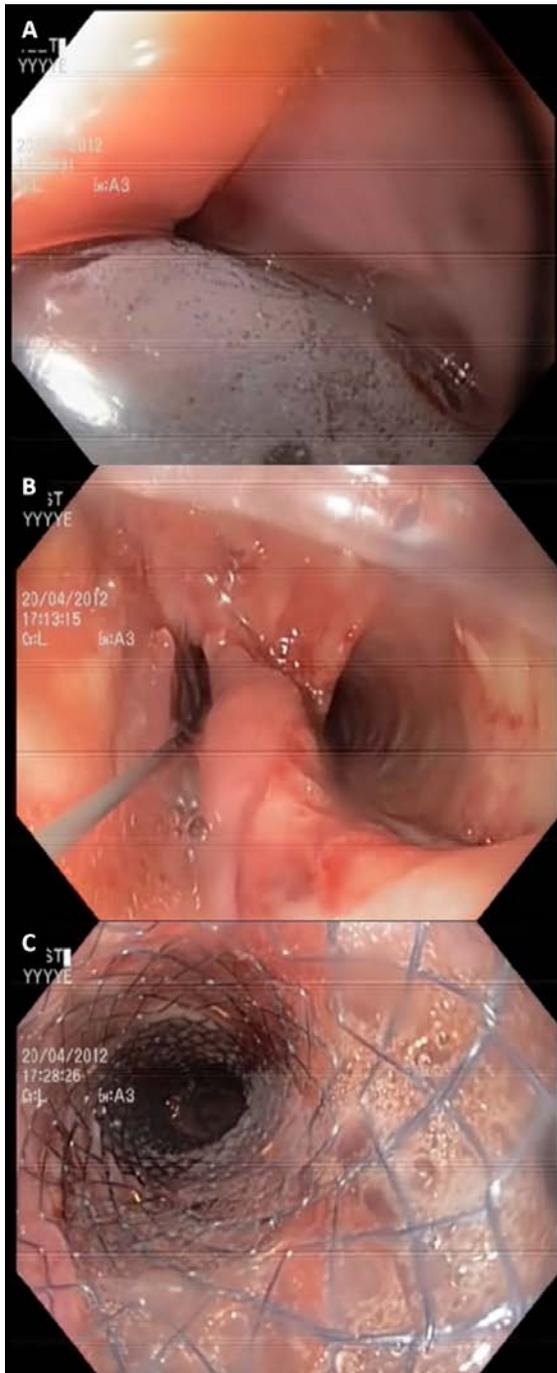
A 79-year old female patient who had respiratory insufficiency after a hemorrhagic cerebral stroke was hospitalized. The patient was intubated and connected to the mechanical ventilation device on March 13, 2012. She was taken to the intensive care unit (ICU). Radiography revealed an infiltration in the right lung and systemic antibiotic therapy was given. While she was in ICU, the bag which was connected to the nasogastric catheter swollen. Esophagogastroduodenoscopy (EGD) was performed to look for evidence of TEF on the seventeenth day of mechanical ventilation. EGD revealed the cuff of an endotracheal tube in the proximal esophagus, 15 cm from the incisor teeth. She was not operated because of high risk. EGD was performed again on April 20, 2012, and revealed a giant tracheoesophageal defect with the cuff of the endotracheal tube (Figure A, B). A covered self-expandable and retrievable stent (Hanarostent) was placed with Shim's Technique in the proximal esophagus (Figure C). The patient was stable for two weeks. Unfortunately, sepsis progressed and the patient died three weeks later.

#### Case 2.

A 67-year old female patient developed respiratory failure requiring intubation and mechanical ventilation during coronary angiography on August 9, 2012. Four weeks later, tracheotomy was performed to accommodate long-standing mechanical ventilation. TEF was suspected, because liquid gastric content was aspirated during deep tracheal suctioning. EGD was performed on December 6, 2012, and revealed 2 TEFs (1 cm and 2 cm in diameter, which are 1 cm apart), 18 cm from the incisor teeth. A 9 cm covered self-expandable and retrievable stent was placed with same technique, but she died of lower respiratory tract infections four weeks later.

Self-expanding metal stents (SEMS) play an important role in the management of TEF. Complications encountered with use with esophageal SEMS insertion comprise perforation, bleeding, stent migration, reflux, chest pain, recurrent dysphagia, and food bolus impaction (1). SEMS insertion is unlikely to be helpful, in major defects between the trachea and esophagus. However, SEMS can be used as a bridge to surgery for such patients. As the risk of stent migration is higher with covered stents in cervical esophagus. We used a modified, covered, self-expandable esophageal metal stent that could be fixated by using a silk thread attached on the edge of proximal end of the stent to the patient's ear via the nares (2). The critical point is not allowing much time to pass after diagnosis of fistula. Over time, the defect becomes even greater during tracheal intubation. The treatment of choice should be

surgery in the management of nonmalignant TEF (3).



**Figure A.** The cuff of an endotracheal tube in the proximal esophagus, B. A giant tracheoesophageal defect, C. Endoscopic view of TEF after a covered self-expandable stent placement.

## References

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