Catch-22: Management of aorto-esophageal fistula after thoracic endovascular aortic repair

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Fernandez and colleagues¹ describe an aorto-esophageal fistula in a 78-year-old woman who presented with hematemesis 2.5 years after thoracic endovascular aortic repair (TEVAR). Work-up demonstrated a type 1A endoleak and a large necrotic esophageal ulcer. The patient underwent proximal endograft extension after carotid-carotid bypass as well as placement of an esophageal stent. The patient refused interval esophagectomy with retrosternal gastric reconstruction, and at the time of the report (6 months after the procedure) was symptom free and taking antibiotics.

Of the potential complications associated with TEVAR, perhaps none are more devastating than aortobronchial and aorto-esophageal fistulae. The latter complicates about 2% of TEVAR cases and can occur in patients with rupture, dissection, or aneurysm.² The mechanism of formation may be multifactorial and involve deprivation of the esophageal blood supply due to coverage by the stent graft, erosion of the stent graft through the aorta (especially if the device collapses), stent graft infection, ongoing endoleak, and pressure imposed on the esophageal wall as the stent graft expands.² Presentation is typically sepsis or varying degrees of hematemesis. Laboratory testing may show elevated white blood cell, C-reactive protein, fibrinogen, and D-dimer values.² The diagnosis is made with either computed tomography or magnetic resonance imaging and an upper endoscopy.

Treatment of these patients is very challenging due to the anatomic location of the fistula, and (usually) the presence of an infected field. Most reports have found that management with repeat TEVAR extensions, esophageal stent grafting, and long-term antibiotics more often than not result in death from recurrent bleeding or sepsis.²⁻⁴ Definitive management usually involves open esophagectomy and/or segmental aortic replacement,^{5,6} but this strategy is often limited by the poor baseline health of the patient and even if successful, may not be adequate treatment.⁷

The patient described by Fernandez and colleagues¹ refused definitive surgery and hence remains at

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Central Message

A devastating complication of TEVAR is aorto-esophageal fistula. Endovascular treatment often fails, but definitive open repair may not be possible due to the comorbid status of the patient.

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significant risk for a catastrophic outcome. Endovascular specialists must be constantly mindful of the potential for this devastating complication in their patients. Unfortunately, the ultimate therapy is challenged by a catch-22: The potential inadequacy of an endovascular solution and the morbidity associated with extensive open surgical repair.

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