Diagnostic Methylene Blue Test for Stent Covered Tracheoesophageal Fistula

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Figure 1. Computed tomography image showing the stent covering a possible fistulous opening (*arrow*).

A 68-year-old female presented with a 3-day history of choking with liquids. A silicone Y stent was placed 15 months earlier for tracheal stenosis and malacia secondary to local treatments of an invasive nonresectable tracheal squamous cell carcinoma. Radiologic findings were inconclusive (Figure 1). The presence of an acquired tracheoesophageal fistula can be confirmed endoscopically using a variety of techniques. Visualization of gas bubbles at the site of an airway or esophageal defect helps confirm the diagnosis. The presence of a stent may complicate visualization of the airway defect and the gas bubbles (Figure 2). A simple test can help. During bronchoscopy in a semirecumbent position, we instructed the patient to sip water mixed with a few drops of methylene blue from a cup using a straw. The methylene blue leaked from the posterior tracheal wall (Figure 3, *arrow*) and tracked into the recess between the stent wall and the tracheal wall. Placement of an esophageal stent or a gastrostomy tube are palliative options.

Author disclosures are available with the text of this article at www.atsjournals.org.

Figure 2. Bronchoscopic view of the tracheal limb of a Y stent.

Figure 3. Methylene blue leaking through the tracheoesophageal fistula.

This article has an online supplement, which is accessible from this issue's table of contents at www.atsjournals.org

Am J Respir Crit Care Med Vol 185, Iss. 7, p e9, Apr 1, 2012
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DOI: 10.1164/rccm.201106-1142IM
Internet address: www.atsjournals.org