Endoscopically guided thoracoscopic esophagectomy for stricture in a child

Marcus M. Malek · Sohail R. Shah ·
Aviva L. Katz · Timothy D. Kane

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Abstract

Purpose Caustic ingestion is a common cause for acquired esophageal strictures in children. Thoracoscopic esophagectomy can be very useful in this setting, particularly for short segments of disease [1–4]. Thus far, the use of endoscopy to guide resection margins has not been described.

Methods A 6-year-old boy developed a tight, short esophageal stricture from a lye ingestion injury at the age of 4 years. He had a gastrostomy tube placed at the time for supplemental feedings and subsequently failed attempts at antegrade and retrograde esophageal dilatation. This video demonstrates an endoscopically guided (endoscopes simultaneously passed retrograde via the gastrostomy and antegrade through the oropharynx) thoracoscopic esophagectomy and primary anastomosis management of the stricture.

Methods In the left lateral decubitus position, four 5-mm ports were placed in the right chest in the fifth intercostal space, anterior-axillary line; sixth intercostal space, midaxillary line; fourth intercostal space, midaxillary line; and seventh intercostal space, posterior axillary line. A 5-mm 30° Storz® telescope and 4.9-mm and 9.6-mm Olympus®

endoscopes were used. The area of esophageal stricture was identified using the endoscopes and thoracoscopically dissected circumferentially. The vagus nerves were identified and circumferentially freed from the strictured esophageal segment. Primary resection and anastomosis was performed using intracorporeal sutures and then tested for leak using the endoscope via the gastrostomy site.

Results Esophagram on postoperative day (POD) 7 revealed no leak and a widely patent anastomosis. He was discharged home on a soft diet on POD 8 and continues to feed orally over 1 year following his operation.

Conclusion As demonstrated by our video, endoscopy is a useful adjunct in the performance of a thoracoscopic esophagectomy for short esophageal stricture. It is particularly helpful because it provides direct visualization of the compromised lumen and allows for a more precise resection.

Keywords Pediatric Endoscopy · Thoracoscopy · Esophagectomy · Stricture

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M. M. Malek · S. R. Shah · A. L. Katz · T. D. Kane (✉)
Division of Pediatric General and Thoracic Surgery,
Children's Hospital of Pittsburgh, University of Pittsburgh
Medical Center, 3705 Fifth Ave., 4A-485, Pittsburgh,
PA 15213, USA
e-mail: kanetd@upmc.edu

M. M. Malek
e-mail: marcus.malek@chp.edu

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