Gastric conduit revision after esophagectomy: The raising of Lazarus

Jules Lin, MD

From the Section of Thoracic Surgery, Department of Surgery, University of Michigan Medical Center, Ann Arbor, Mich.

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Address for reprints: Jules Lin, MD, Section of Thoracic Surgery, 1500 E Medical Center Dr, 2120TC/5344, Ann Arbor, MI 48109-5344 (E-mail: juleslin@umich.edu).

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Severe gastric conduit dysfunction is a rare but disabling problem. When patients present with dysphagia, regurgitation, and aspiration, surgeons often experience a sense of dread and trepidation. Whether to proceed with conduit revision requires careful consideration of symptoms, imaging findings, response to nonoperative management, risks, and a thorough discussion with the patient.

In this issue of the *Journal*, Rove and colleagues¹ describe management of conduit dysfunction and their technique for conduit revision. Although their initial approach is endoscopic pyloric dilation in all patients, because many have improvement with dilation alone, obtaining an esophagogram first delineates the anatomy, potentially identifying causes of conduit dysfunction, such as a redundant conduit, unlikely to respond to pyloric dilation. Kent and colleagues² reported on 21 patients undergoing gastric conduit revision and found that 23% had a redundant conduit and 54% had mechanical obstruction, with a narrowed hiatus in two thirds and pyloric obstruction in one third.

The goals include repairing any paraconduit hernia, reducing a redundant conduit, tubularizing a dilated conduit, and adequate gastric drainage. Rove and colleagues¹ addressed dilated gastric conduits by plication or stapled reduction. When the conduit is redundant but not dilated, the conduit can be mobilized and reduced into the abdomen.² Adequate gastric drainage should be ensured. Only 3 patients in this series underwent pyloric drainage at revision, however, and patient 6 did not undergo pyloric drainage, despite multiple pyloric dilations in the course of 2.5 years.

The importance of preventing these complications when possible during esophagectomy should be emphasized. Rove and colleagues¹ did not routinely reapproximate the crus, and performance of pyloric drainage was variable, with 6 of 7 patients having no drainage procedure. Although pyloric drainage remains controversial with conflicting results,^{3,4} at my institution we believe that proactive pyloromyotomy decreases perioperative aspiration and

Jules Lin, MD

Central Message

Severe gastric conduit dysfunction is a rare, disabling postesophagectomy complication. Conduit revision can restore patients to a regular diet but should be performed only by experienced surgeons.

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gastric outlet obstruction, with only 2 of our 2007 patients having clinically significant delayed gastric emptying.⁵ We gently pull the stomach back into the abdomen, to help prevent a redundant conduit, and reapproximate the crus, to help prevent paraconduit hernias. Transhiatal esophagectomy may result in a straighter conduit, especially if the pleurae are not entered, and 6 of 7 patients in the study of Rove and colleagues¹ underwent Ivor Lewis esophagectomy.

Despite the small number, it is impressive that all patients had improved symptoms, returning to a regular diet. Kent and colleagues² reported resolution in 65%, improvement in 20%, and persistent severe symptoms in 15%. There is an opportunity for further study evaluating that cohort of 400 patients for factors associated with successful nonoperative treatment and those requiring conduit revision. Also, would earlier intervention prevent conduit dilation and tortuosity?

Rove and colleagues¹ have provided a case series of challenging patients with severe gastric dysfunction, a problem many surgeons face with dread and trepidation. They have demonstrated that a dysfunctional conduit does not necessarily need to be replaced and can be revised, restoring all 7 patients to a regular diet with minimal morbidity, in effect raising Lazarus from the dead. The technique is technically

demanding, however, and it should only be contemplated by experienced esophageal surgeons—lest raising Lazarus becomes the rise of Frankenstein, potentially haunting both surgeon and patient with ongoing complications for years to come.

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