

INVITED COMMENTARY

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I agree completely with Skinner's admonition to warn all patients undergoing operation for control of gastroesophageal reflux that they may sustain injury to the vagus nerves, stomach, esophagus, or spleen, or experience postoperative dysphagia, the "gas bloat" syndrome, gastric distention, or bleeding. Our experience is based on over 200 transthoracic operations for gastroesophageal reflux and 900 evaluations of patients previously operated on or being assessed for therapy. Esophageal manometry and intraesophageal acid reflux testing are basic in our preoperative evaluation and postoperative follow-up of patients being treated for gastroesophageal reflux.

Postoperative gastric atony and dilatation secondary to vagal nerve injury place stress on a recently performed hiatal hernia repair, producing disruption of sutures between the esophagus and stomach and resulting in a high incidence of recurrent reflux. This complication rarely occurs with injury only to the smaller anterior vagus nerve. If periesophagitis and mediastinal inflammation prevent adequate visualization of the vagus nerves or result in recognized injury to the vagus nerves during the hernia repair, it is better to perform a gastric drainage procedure at this point rather than risk the postoperative morbidity of delayed gastric emptying and a subsequent operation.

The Belsey, Nissen, and Hill antireflux operations all require the restoration of a 3–5 cm segment of distal esophagus into the abdomen. In the past several years, our efforts have been directed at achieving reflux control in those patients with factors which clearly predispose them to recurrent reflux after these standard repairs. The most common of these factors is esophageal inflammation with shortening and periesophagitis associated with reflux esophagitis which prevents a tension-free reduction of the distal esophagus beneath the diaphragm. In addition, patients with marked obesity and severe chronic obstructive pulmonary disease have an increased incidence of abdominal incisional hernias and failure of incisional hernia repairs. We regard these patients as also being at increased risk for recurrent reflux after standard antireflux operations.

In contrast to Skinner, I believe that if there is so much esophageal shortening that mobilization of the esophagus to the level of the aortic arch is required to gain an intra-abdominal segment of distal esophagus

for a hiatal hernia repair, then an alternative approach is indicated. Any hernia which depends on placement of sutures into the tenuous esophageal muscle is less likely to be successful if the lower esophagus is inflamed or under tension. The Collis gastroplasty procedure, which lengthens the functional distal esophagus by 5–10 cm, completely eliminates tension on the esophagus and provides more resilient uninflamed tissue for suturing. Use of the GIA surgical stapler for this procedure avoids the need for opening the stomach. The combination of the Collis gastroplasty with the Belsey fundoplication, first advocated by Pearson and his associates, in their hands has produced excellent long-term results in patients with severe reflux esophagitis and peptic strictures who, in the past, carried an unacceptably high rate of recurrent reflux after the standard Belsey Mark IV repair.

We have used the Collis gastroplasty in combination with either a Belsey partial fundoplication (83 patients) or a 360° Nissen-type fundoplication (32 patients). In our early follow-up studies, control of reflux after the Collis gastroplasty has been better using a 360° fundoplication rather than a partial Belsey gastric wrap. Forceful intraoperative dilatation of peptic esophageal strictures in 35 of these patients has resulted in excellent or good relief from dysphagia in 29. In our experience, if preoperative oral dilatation of a stricture to a #40Fr. bougie is possible, progressive intraoperative dilatation up to a #56 to 60Fr. Hurst-Maloney bougie can be achieved. This is done with the mobilized lower esophagus in the surgeon's hand, guiding the dilator inserted by mouth through the stricture and supporting the esophagus from without to prevent mural disruption as the bougie is advanced. In both our experience and that of Pearson, in contrast to that of Skinner, resolution of the stenoses generally has been dramatic even in patients with severe strictures necessitating vigorous forceful dilatation. The patient can swallow a regular diet within 2 to 3 weeks of operation, and the need for esophageal dilatation within the first several months after operation in one-third of these patients is accepted and well tolerated because swallowing is so much improved. Included in this series are 20 patients with scleroderma reflux esophagitis, 11 of whom had peptic strictures.

Skinner also expresses concern about the blood supply of the gastroplasty tube in patients who have had previous gastric resection, splenectomy, or prior operation at the esophagogastric junction, which he feels contraindicate use of the Collis procedure. Our experience, however, indicates that the blood supply of the gastroplasty tube is seldom a problem. Among 115 patients undergoing the Collis procedure in combination with a fundoplication (Belsey or Nissen), 43

had periesophagitis from prior operations at the esophagogastric junction, which included 30 trans-thoracic hiatal hernia repairs, 20 transabdominal hiatal hernia repairs, 15 vagotomies, 5 esophagomyotomies, and 2 repairs of esophageal perforations. Eight patients had undergone 50–75% subtotal gastric resections for peptic ulcer disease. Necrosis of the gastroplasty tube has occurred in only one patient who had extensive lower mediastinal and perihial adhesions associated with a recurrent hiatal hernia. We believe that a prior operation at the esophagogastric junction results in periesophagitis that jeopardizes the accurate placement and healing of esophageal sutures and is an indication, rather than a contraindication, for the Collis gastroplasty.

We do not advocate the Thal fundic patch operation for peptic strictures because this operation relies on the healing of the intentionally opened, inflamed esophagus to which the fundus is sutured, and addition of an intrathoracic fundoplication is required to control reflux. In effect, this creates a man-

made paraesophageal hiatal hernia with its potential complications. For the same reason, we oppose intrathoracic fundoplication and are personally aware of 6 patients who have bled from or perforated their intrathoracic fundic wraps.

We believe that esophageal resection for gastroesophageal reflux and its complications is now seldom indicated except in patients in whom newer methods of reflux control, specifically the Collis gastroplasty with a fundoplication, have failed. Intestinal interposition relieves dysphagia from distal stricture, but many of these patients experience gastroesophageal reflux and must sleep with the head of the bed elevated to avoid nocturnal regurgitation.

Objective long-term follow-up data using intraesophageal pH monitoring will determine the most efficient operation for control of gastroesophageal reflux. Skinner has elaborated the many potential complications of antireflux surgery. The incidence of these complications, however, is not discussed, and fortunately is relatively small.