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Indications

- *Carcinoma/high-grade dysplasia of the lower third of the esophagus/gastric cardia*
- Rarely: benign stricture, severe neuromuscular dysfunction, or perforation

Essential Steps

1. Midline abdominal incision.
2. Divide the gastrocolic ligament.
3. Preserve the right gastroepiploic artery, ligate the left gastroepiploic artery, and ligate the short gastric arteries.
4. Dissect the lesser curvature.
5. Preserve the right gastric and *aberrant left hepatic artery if present*.
6. Ligate the left gastric vessels.
7. Dissect the hiatus, mobilizing the esophagus from below.
8. Kocher maneuver.
9. *Gastric drainage procedure to prevent delayed emptying or Botox injection.*
10. Oblique neck incision.
11. Dissect anterior to the sternocleidomastoid muscle.
12. Avoid traction injury or cautery injury to the recurrent laryngeal nerve.
13. Mobilize the cervical esophagus.
14. Divide the esophagus in the neck and stomach in the abdomen.
15. Pull the specimen down through the abdomen and remove.
16. Create the gastric conduit.
17. Pull the stomach up into cervical incision.
18. Cervical anastomosis: *sutured/stapled*.
19. Place drain adjacent to the anastomosis in the neck.
20. Close the hiatus around the stomach.
21. Check hemostasis and close wounds.

Complications

- Major hemorrhage
- Injury to the tracheobronchial tree
- Recurrent laryngeal nerve injury
- Splenic injury
- Gastric necrosis
- Pneumothorax
- Chylothorax
- Anastomotic leak
- Empyema/mediastinitis

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Template Operative Dictation

Preoperative Diagnosis *Carcinoma/high-grade dysplasia of the lower third of the esophagus/gastric cardia/other*

Procedure Transhiatal esophagectomy

Postoperative Diagnosis Same

Indications This ___-year-old male/female had developed dysphagia and on workup was found to have *dysplasia/carcinoma of the esophagus extending from ___ to ___ cm/other. (If carcinoma, detail preoperative staging and any neo-adjuvant chemotherapy and radiation therapy given.)* Esophagectomy was indicated.

Description of Procedure The patient was taken to the operating room. Time-outs were performed using both preinduction and pre-incision safety checklists to verify correct patient, procedure, site, and additional critical information prior to beginning the procedure. General anesthesia was induced. He was positioned on the operating table with arms tucked and pressure points padded. The abdomen, chest, and left neck were prepped and draped in the usual sterile fashion. An upper midline incision was made and the abdomen explored. *No evidence of metastatic disease was found/other.*

Attention was then turned to the greater curvature of the stomach, where a palpable gastroepiploic vessel was identified. The left gastroepiploic and short gastric vessels were *ligated with 2-0 silk and divided/or utilizing the Ligasure device.* The right gastroepiploic pedicle was carefully preserved. When the greater curvature was fully mobilized, attention was turned to the lesser curvature. Gentle cephalad traction was placed on the stomach and the lesser sac was entered. The right gastric artery was preserved and the left gastric artery was similarly identified. No anomalous left hepatic artery was identifiable; therefore, the left gastric artery was ligated and divided/*stapled.* The dissection of the lesser curvature was continued to the pylorus. An extensive Kocher maneuver was performed.

Attention was then turned to dissection of the hiatus. The phrenic vein was doubly ligated and divided/ *avoided*; the phrenoesophageal ligament was divided using sharp and blunt dissection. The mediastinum was entered anterior to the esophagus. The left triangular ligament was divided and the esophagus mobilized circumferentially.

The pylorus was identified *and 2-0 silk traction sutures placed on either side. Using needle tip electrocautery, the serosa was incised and the muscle was divided carefully all the way to the mucosa avoiding injury to it/alternately a total of 200 units of Botox were injected in all four quadrants of the pylorus.*

Attention was turned to the neck. The skin was incised obliquely along the medial border of the left sternocleidomastoid muscle extending from the level of the thyroid cartilage to the sternal notch. Dissection was then carried out dividing the platysma and omohyoid and ligating the middle thyroid vein. Blunt dissection was extended to the prevertebral fascia and tracheoesophageal groove. The sternocleidomastoid muscle and carotid artery were gently retracted laterally; care was taken to avoid medial retraction to the recurrent laryngeal nerve. The cervical esophagus was then bluntly mobilized, taking care to avoid injury to the trachea and the right recurrent laryngeal nerve.

At that point we started our mediastinal dissection bluntly from the hiatus and from the neck incision to divide all the esophageal attachments anteriorly and posteriorly.

With the esophagus now free of its attachments, a linear cutting stapler was fired in the neck to create the proximal margin. The entire esophagus was advanced into the abdomen. A *linear cutting stapler* was used to divide the stomach below the gastroesophageal junction, establishing the distal margin. Creation of a gastric conduit was performed by resecting the GE junction and the lesser curvature of the stomach down to the level of crow's foot of veins using ___ staplers. A suction drain was placed from the neck into the mediastinum and attached to a Penrose drain. The Penrose drain was fixed to the stomach and oriented. The entire apparatus was advanced through the hiatus, bringing the

gastric fundus out through the cervical incision with care taken to avoid torsion of the stomach.

[Choose One:]

If stapled anastomosis: The esophagus and gastric conduit were then aligned and a gastrotomy performed. A limb of a linear cutting stapler was placed down both the cervical esophagus and gastric fundus. The stapler was fired, creating a side-to-side functionally end-to-end anastomosis. A nasogastric tube was advanced through the anastomosis with the end resting distal to the pylorus. The remaining enterotomy was closed in two layers with interrupted 4-0 PDS and 3-0 Vicryl.

If sutured: A two-layer anastomosis was constructed between the distal esophagus and stomach using an inner layer of running 4-0 PDS and an outer layer of 3-0 Vicryl. The nasogastric tube was advanced through the anastomosis and down through the pylorus.

A closed suction drain was placed in the cervical bed and the incision irrigated and closed in

the usual fashion. *The pyloromyotomy/pyloroplasty site was reinforced with omentum in a patch fashion.* The hiatus was reapproximated around the stomach and secured with interrupted 2-0 silk suture. *A feeding jejunostomy was created approximately 20 cm from the ligament of Treitz in the usual fashion utilizing a Witzel tunnel and multiple abdominal wall tacking sutures (Chap. 39).*

Attention was then turned to closure. The abdominal fascia was closed with *number 1 PDS suture*. The skin was closed with *skin staples/subcuticular sutures of ___/other*.

A debriefing checklist was completed to share information critical to postoperative care of the patient. The patient tolerated the procedure well and was taken to the postanesthesia care unit in stable condition.

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