Abdominothoracic En Bloc Esophagectomy with High Intrathoracic Anastomosis

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Introduction

High intrathoracic anastomosis may be performed without compromising the oncologic requirements alternatively to collar anastomosis for treatment of intrathoracic tumors, i.e., if located distally to the tracheal bifurcation. The benefits of considerably shorter operating times are associated with the risk of developing devastating mediastinitis when anastomotic leakage occurs.

Indications and Contraindications

**Indications**

- Thoracic esophageal carcinoma
- Long distance peptic stricture, if transhiatal resection is not possible

**Contraindications**

- See chapter on “Subtotal Esophagectomy: Transhiatal Approach”
- High risk patients

Preoperative Investigation/Preparation for the Procedure

See chapter on “Subtotal Esophagectomy: Transhiatal Approach”.

Procedure

**Access**

- Helical positioning of the patient with 45° elevation of the right thorax and elevated arm
- Turning the table to the patient’s supine position for the abdominal part of surgery
- Turning the table to the left for the thoracic part of surgery
STEP 1

See Steps 1–3 and Step 5 of the chapter “Subtotal Esophagectomy: Transhiatal Approach”

STEP 2

See Steps 1–4 of the chapter “Subtotal Esophagectomy: Transhiatal Approach”

STEP 3

High intrathoracic anastomosis

Transection of the esophagus is carried out 5 cm below the upper thoracic aperture over a Pursestring 45 clamp. Alternatively the esophagus is transected and a running suture (monofilament, 2-0) is applied as a pursestring suture.

Dilatation of the proximal esophageal stump with a blunt clamp is performed. The anvil of a circular stapler (preferably 28mm) is introduced into the esophageal stump and fixation is done by tying the pursestring suture.

Mobilization of the gastric tube through the diaphragmatic esophageal hiatus is performed, followed by resection of the apex of the gastric tube. This is usually longer than required. Then introduce the stapler into the gastric tube, and perforation of the wall at the prospective site of the anastomosis with the head of the stapling device (A).

In case of limited length of the gastric tube, the stapling device is inserted through a ventral gastrostomy and an end-to-end gastroesophagostomy is performed.

Connection with the anvil is followed by firing of the instrument (B).

Check for completeness of the anastomotic rings. The stapler is removed and closure and resection of the protruding part of the gastric tube are done with a linear stapler.

A nasogastric feeding tube is then inserted over the anastomosis and placed into the first jejunal poop for decompression and postoperative enteral feeding. Thoracic drainage is placed in the right thoracic cavity.

Alternatively, this elegant method can be performed in the same manner in the case of colonic interposition after esophagogastrectomy (C, D).