

Limited en bloc Resection of the Gastroesophageal Junction with Isoperistaltic Jejunal Interposition

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■ Indications

- Severe dysplasia in the distal esophagus (Barrett's esophagus)
- distal adenocarcinoma of the esophagus stage pT1a and pT1b (UICC 2005).

■ Contraindications

- Advanced adenocarcinoma of the esophagus (stage pT2 and above)
- Long Barrett's segment above the carina.

■ Risks and informed consent

- Insufficiency of the esophagojejunostomy or the intraabdominal anastomosis
- Mediastinitis
- Pancreatitis
- Peritonitis
- Pleural empyema
- Emergency thoracotomy
- Necrosis of the jejunal interposition
- Postoperative reflux
- Postoperative delayed gastric emptying
- Possible extension of the operation including transhiatal esophagectomy or esophagogastrectomy in case an advanced tumor stage is encountered.

■ Particular preoperative measures

- Esophagogastroscope with extensive biopsies
- Computed tomography of the chest and abdomen
- Abdominal ultrasound
- Endosonography of the esophagus
- Pulmonary function test

■ **Anesthesia.** Postoperative analgesia may be improved by implantation of a thoracic peridural catheter.

■ **Positioning of the patient.** See chapter 13.

■ **Access.** See chapter 13.

■ Operative procedure

1. Inversed T-shaped upper abdominal incision
2. Mobilization of the left liver lobe
3. Division of the lesser omentum and identification of the diaphragmatic limbs and of the vagal nerves
4. Median longitudinal incision of the diaphragm
5. Intraoperative esophagoscopy and marking of the proximal limit of resection by diaphanoscopy
6. Lymphadenectomy of the inferior mediastinum and the upper abdomen
7. Positioning of a purse string clamp just cranial to the proximal resection limit and division of the esophagus
8. Resection of the lesser curvature including the distal esophagus, formation of a neo fundus
9. Isolation of a proximal jejunal segment of 15 cm in length and retrocolic transposition to the subdiaphragmatic region
10. Termino-lateral esophago-jejunostomy with a circular stapler
11. Latero-lateral or termino-lateral jejunogastrostomy and termino-terminal jejunostomy.

■ **Particular instruments.** Intraoperative esophagoscopy.

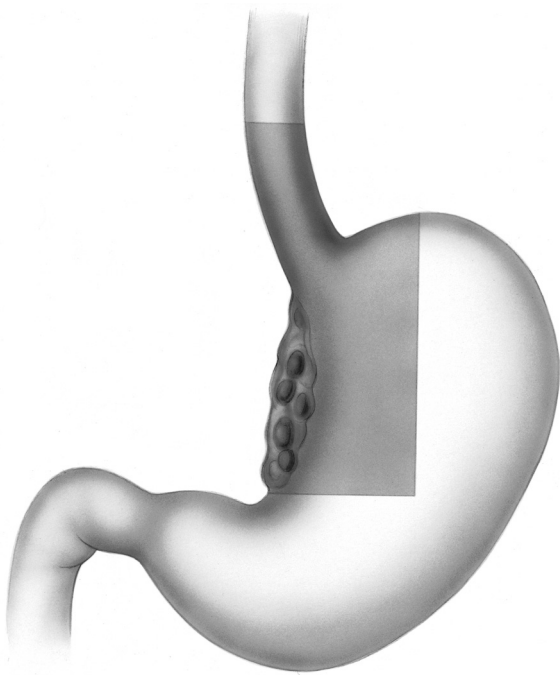


Fig. 22.1. Limited en bloc resection of the gastroesophageal junction includes complete removal of the esophageal segment with metaplastic mucosa, the lower esophageal sphincter and a part of the lesser gastric curvature, and formation of a neo-fundus. Since even early adenocarcinomas of the

distal esophagus (T1b) seed lymph node metastases in up to 20% of the patients, removal of the lymph nodes of the lesser curvature, of the hepatic and splenic arteries, the celiac trunk, the paraaortal region and the inferior mediastinum is an essential part of the operation.

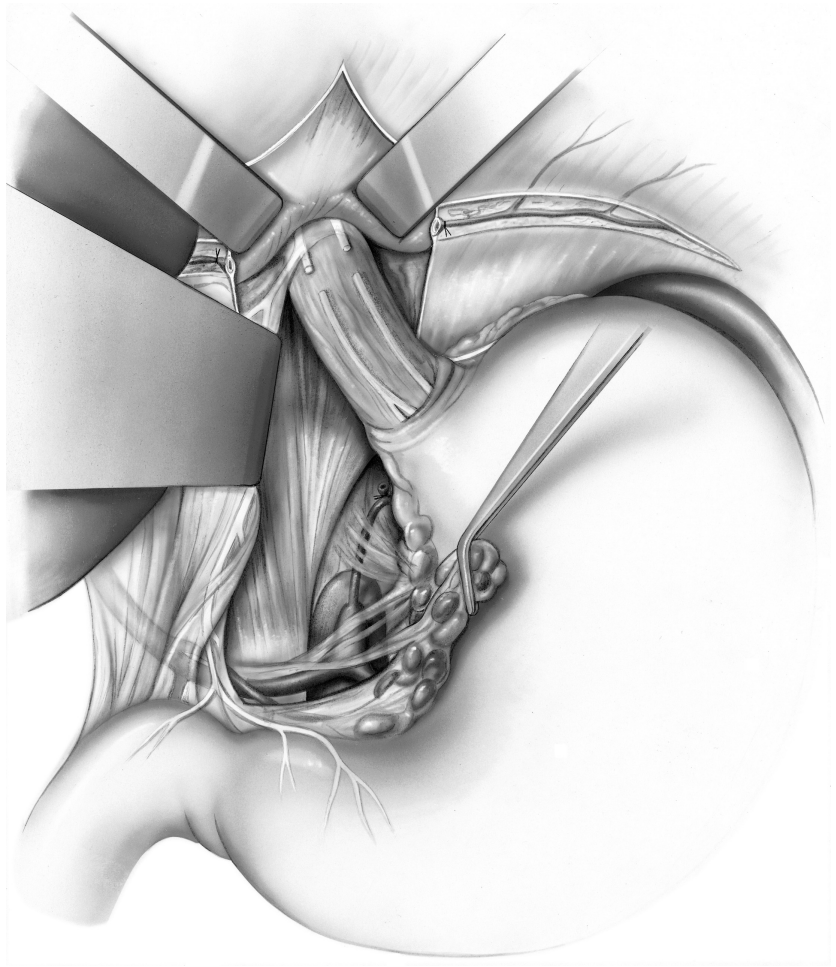


Fig. 22.2. The left liver lobe is completely mobilized, and the lesser omentum is incised just medial to the anterior and posterior gastric vagal branches. A longitudinal median diaphragmatic incision enables exposure of the inferior posterior mediastinum. The distal esophagus is then mobilized including the paraesophageal tissue. The vagal nerves are divided. Intraoperative esophagoscopy identifies the cranial

limit of the Barrett's segment by diaphanoscopy. This also marks the proximal limit of resection. A lymphadenectomy around the splenic and hepatic artery is performed, the left gastric vein is divided, and the left gastric artery divided at the celiac trunk. Then the celiac trunk and the paraaortic region above the celiac trunk are cleared from lymphatic tissue.

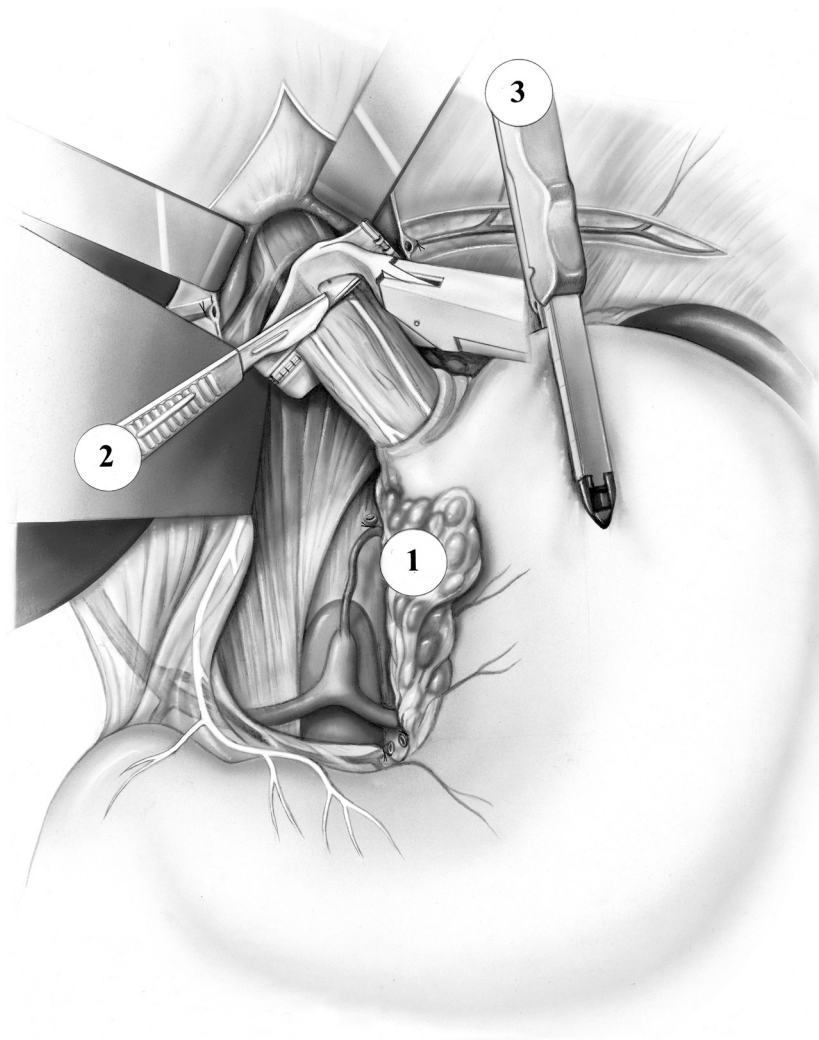


Fig. 22.3. Approximately 1 cm proximal to the cranial limit of the Barrett's segment, a purse string clamp is placed and the esophagus is divided. Removal of the cardia and lesser curvature is performed by placing multiple linear staplers down to the border between antrum and body. Thus, a

neo-fundus is formed. As an exception, the short gastric vessels have to be divided in order to allow for a sufficient mobilization of the gastric fundus. However, in most cases the gastric fundus is not mobilized. **1** Lesser curvature; **2** Division of the esophagus; **3** Linear stapler.

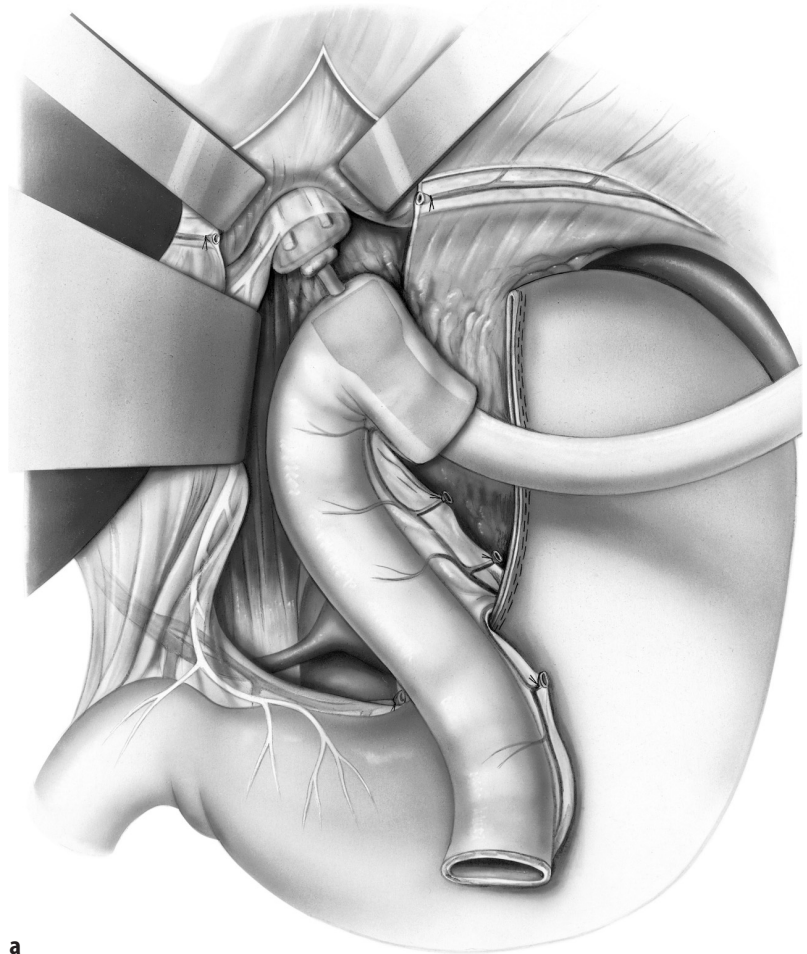
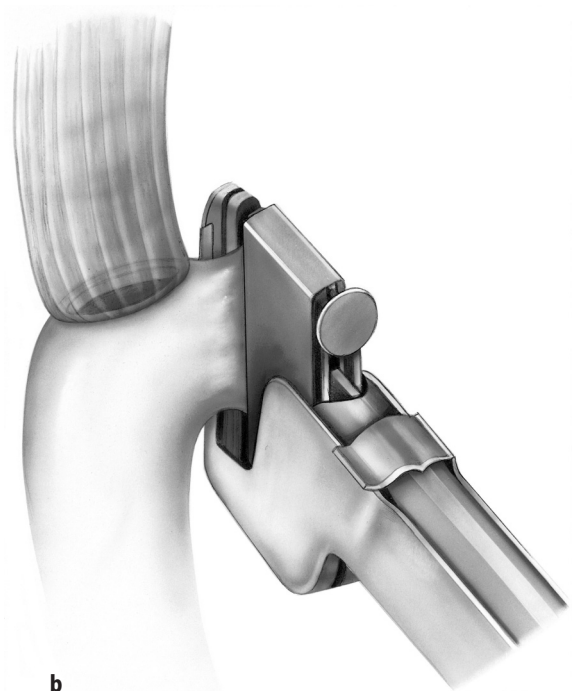
**a****b**

Fig. 22.4a,b. A 15 to 20 cm long segment of the proximal jejunum is isolated and transposed with its mesenteric root to the diaphragmatic region through the mesocolon and behind the stomach. Care has to be taken to dissect the vascular pedicle of this jejunal interposition carefully to provide adequate length. It is imperative to form an isoperistaltic jejunal interposition. The proximal anastomosis is then performed by a circular stapling device as a termino-lateral esophagojejunostomy (**a**). The stapler is introduced into the end of the jejunal interponate. After firing of the anastomosis, the blind end of the loop is then resected and closed by a suture or with a linear stapler and then oversewn (**b**).

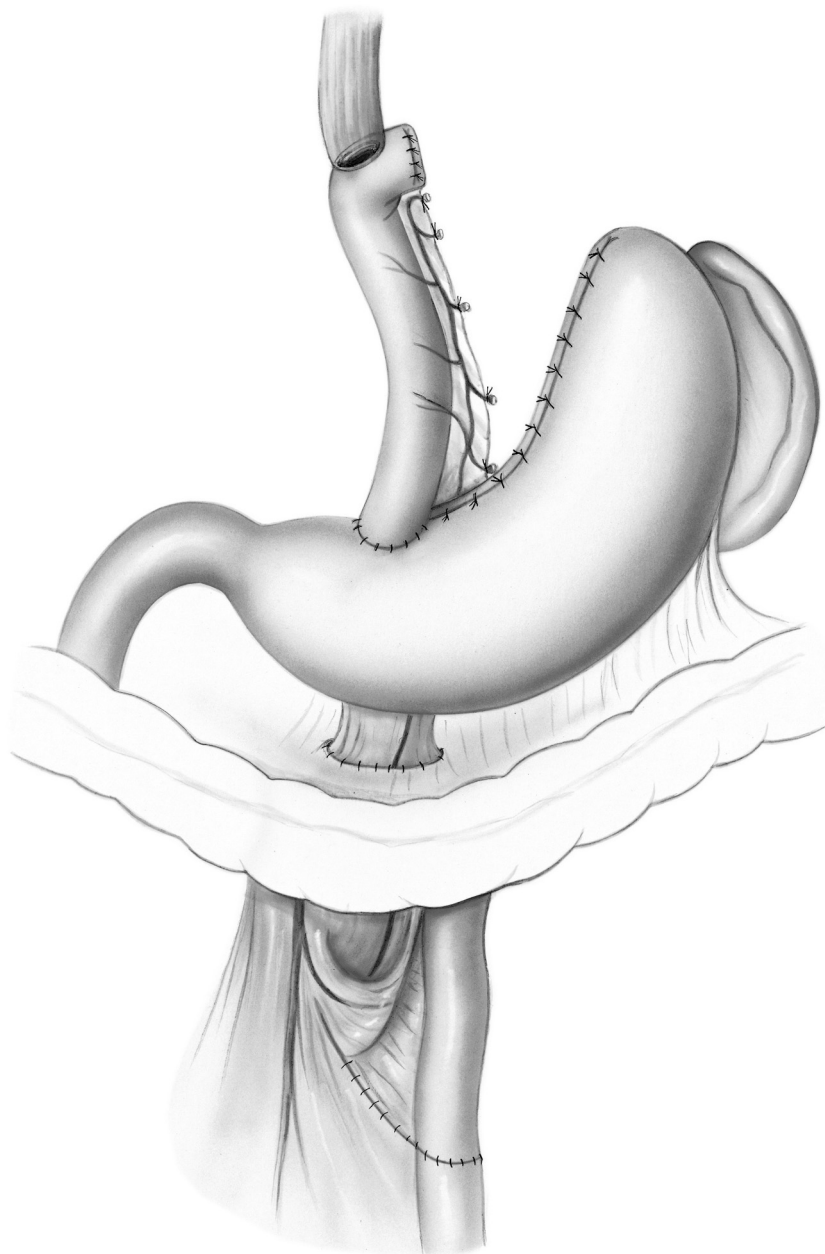


Fig. 22.5. Close to the base of the neo-fundus, the gastric stapler line is removed over a distance of 3–4 cm, and a termino-lateral or latero-lateral jejunogastrostomy is performed. The remaining gastric suture line is oversewn. A termino-terminal jejunogastrostomy reconstructs the enteric passage. Finally an anterior and/or posterior hiatal repair is performed

Surgery of the Esophagus

Textbook and Atlas of Surgical Practice

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