

Chapter 15

Case on Stenosis of a Side-to-Side Gastrojejunostomy After a Laparoscopic Subtotal Gastrectomy

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Keywords Stenosis • Gastrojejunostomy • Lymphadenectomy • Gastric cancer • Laparoscopic gastrectomy

Diagnosis and Indication for Surgery

We view a 65-year-old male patient, known for having hypertension and Diabetes mellitus type II, who had a stroke 3 years ago with left hemiparesia, and now he is studied because of anemia. Through gastroscopy he was diagnosed having a gastric adenocarcinoma in the antrum. Dissemination study by CT scan showed no metastatic disease. The tumor was staged as T3N1M0.

Operation

A subtotal laparoscopic gastrectomy with a D2 lymphadenectomy and spleen preservation was performed. A stapled side-to-side Roux-en-Y anastomosis in the greater curvature was performed with closure of the insertion of de endostapler by means of another mechanical stapler.

Postoperative Course and Identification of the Complication

On the 5th postoperative day, a transit X-ray was performed for control showing a slow passage of the contrast with gastric remnant dilatation, but no leakage (Fig. 15.1).

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Fig. 15.1 Stenosis gastrojejunostomy

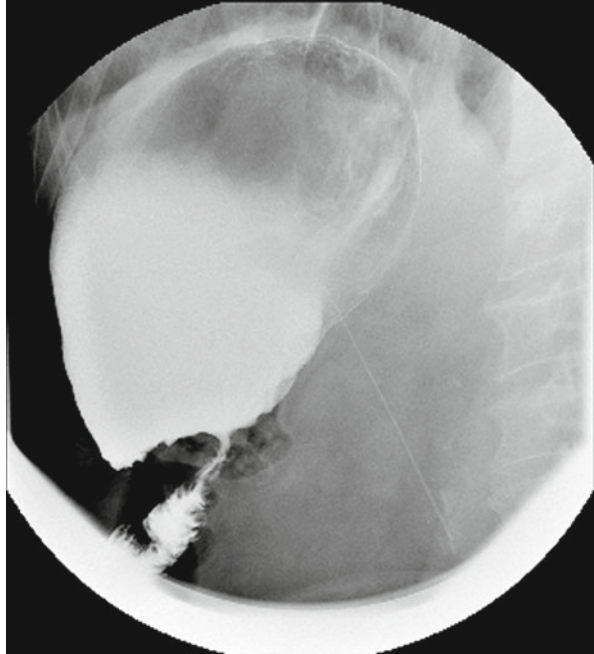
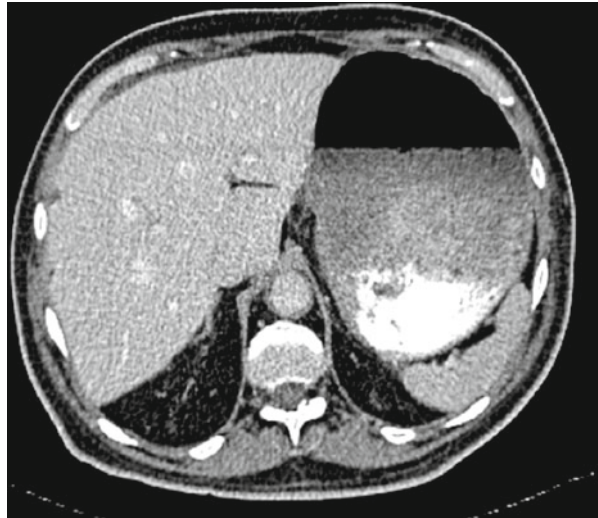


Fig. 15.2 CT scan showing the gastric dilatation

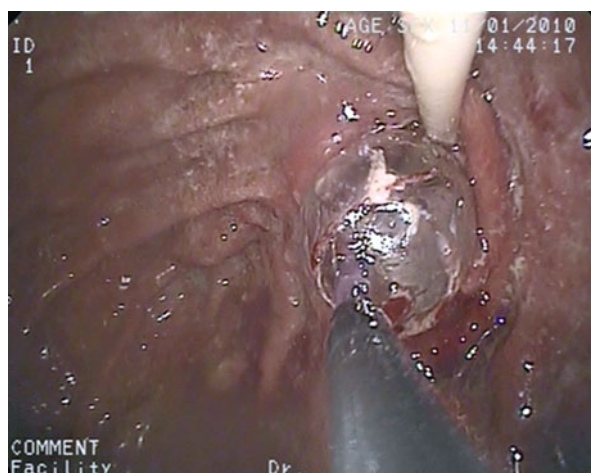


Patient, taking a semisolid diet, was discharged at the 10th postoperative day. He was readmitted on the 14th postoperative day with upper left quadrant pain and experiencing vomiting. A CT scan with oral contrast was performed showing a marked dilatation of the gastric remnant with significant stenosis of the anastomosis (Fig. 15.2 and Illustration 15.1a, b).

Fig. 15.3 Gastroscopy showing the bezoar



Fig. 15.4 First balloon dilatation up to 13 mm



Patient was treated with total parenteral nutrition (TPN) and nasogastric tube for gastric decompression.

It was proposed to dilate the stenosed anastomosis. However, at the first attempt a large bezoar was found at the gastrojejunostomy (Fig. 15.3).

Conservative medical treatment was established with pancreatic enzymes in order to dissolve the bezoar. During the second gastroscopy, the anastomosis could be visualized and dilated by means of a balloon up to 1.3 cm (Fig. 15.4). An enteral feeding tube could be introduced through the stenosis. TPN was replaced by enteral feeding (Fig. 15.4).

During the 4th balloon dilatation, a 3, 5-cm dilatation could be achieved (Fig. 15.5a).

Six months postoperatively, a new gastroscopy showed an adequate patency of the gastrojejunostomy and a normal CT scan (Fig. 15.5b).

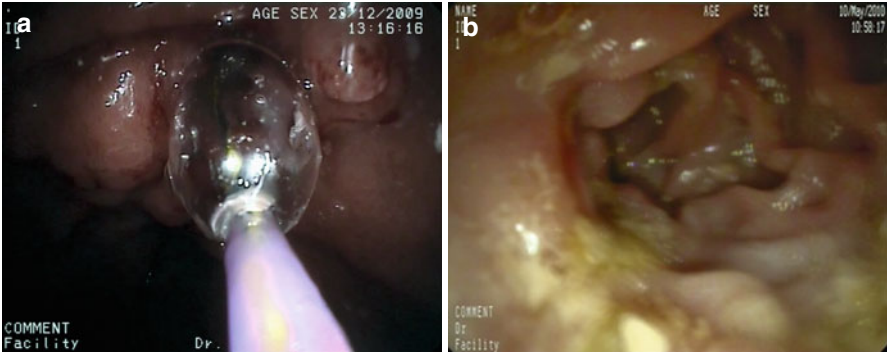


Fig. 15.5 (a) Dilatation up to 35 mm. (b) Patent gastrojejunostomy at 6 months postoperatively

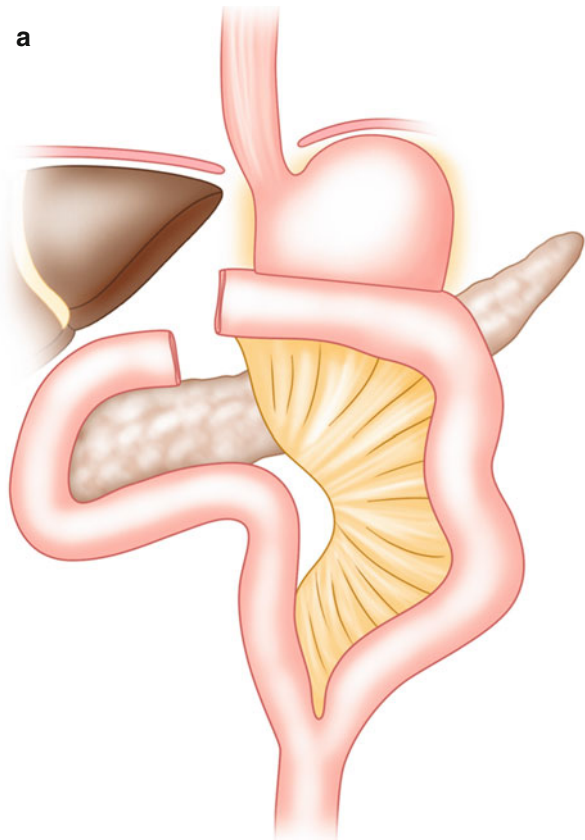


Illustration 15.1 (a, b)
After partial gastrectomy, stenosis can be found at the gastrojejunostomy or at the efferent loop of the anastomosis. Once stenosis is diagnosed, patient should be treated by nasogastric tube and TPN. A dilatation program should be scheduled by progressive balloon dilatation. If an enteral feeding tube can be passed through the stenosed anastomosis, enteral feeding can replace the TPN

b

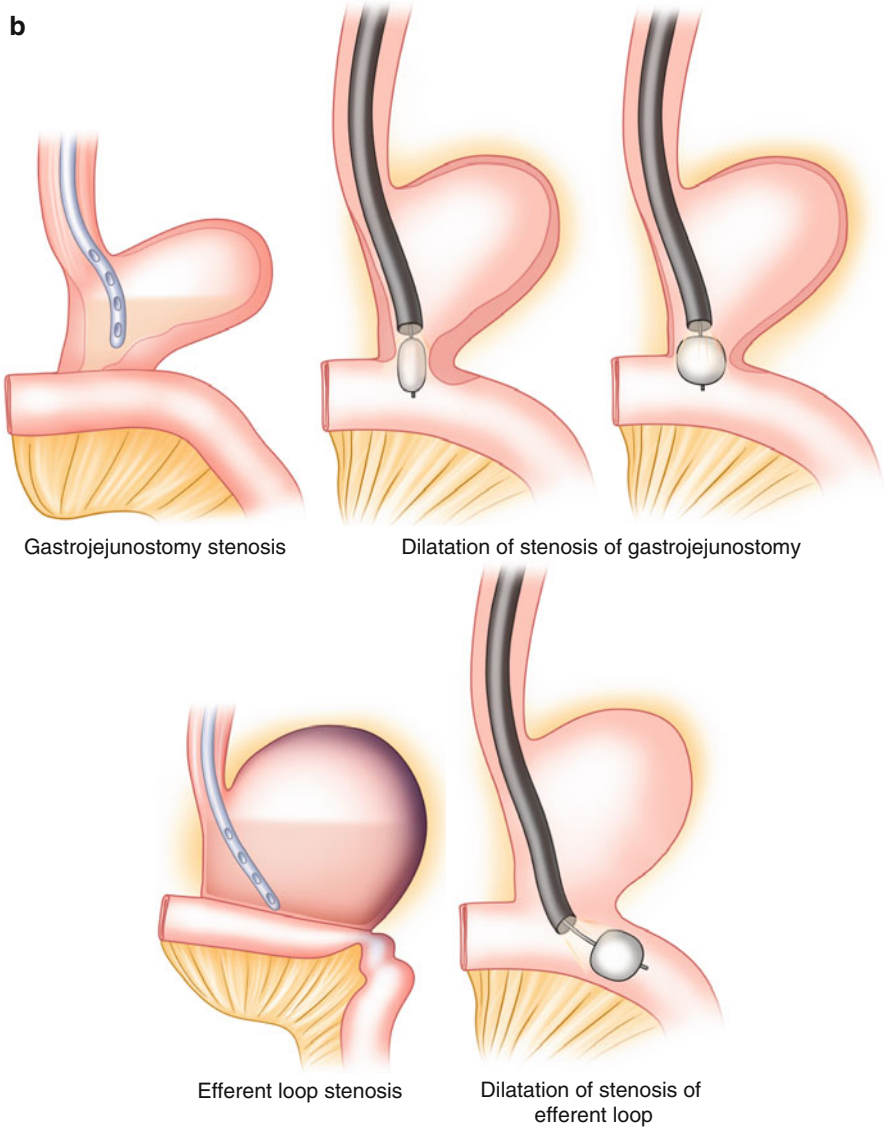


Illustration 15.1 (continued)

Discussion

Gastric-outlet obstruction and intestinal obstruction are relatively frequently occurring complications after gastrectomy. Five percent of all gastrectomies are complicated with stenosis/obstruction of any anastomoses.

The main cause of the obstruction is an area of inflammatory adhesions adjacent to the anastomosis, probably as consequence of small suture-line leakages and bleeding. Clearly, these complications are preventable. Moreover, functional paralysis of the stomach, common in patients after long-standing gastric dilatation as resulting from pyloric stenosis, may mimic gastric-outlet obstruction. Gastric peristalsis may also be reduced by postoperative hypopotasemia.

There are many mechanical problems related to the gastro-jejunostomy, whether ante or retrocolic. Gastric outlet occurs in about 5 % of all retrocolic anastomoses. A retrocolic anastomosis can be stenosed by the transverse mesocolon. In order to prevent this, the defect in the mesocolon should be sutured to the stomach at least 2-cm above the anastomosis. If this is not performed, the mesocolon may slide down resulting in mechanical obstruction of one or both jejunal loops. In making the anastomosis, it does not matter if it is isoperistaltic or antiperistaltic, but it is important that the anastomosis is not twisted or obstructed [1].

Following a total gastrectomy, another cause of obstruction may become the torsion of the long loop of the jejunum used for the esophago-jejunostomy. Furthermore, if antecolic anastomosis is performed, an internal hernia between the loop and colon may be the cause of obstruction.

Benign stenosis after esophago-jejunostomy occurs in 26–42 % of patients, which is of significant influence on the nutritional status and quality of life. Despite the technical and postoperative improvements, the incidence of benign stenosis has not changed in the last 15 years.

Stenosis is associated with anastomotic leakages and cardiovascular disease. Stenosis after anastomotic leakage may be due to (a) initial local ischemia manifested as a leakage and/or (b) local inflammatory reaction.

Also, cardiovascular disease may have an important influence on the anastomosis healing process due to poor irrigation, as consequence of atherosclerosis or a low cardiac output.

Diagnosis of this complication. If transit through the anastomosis is impaired for longer than 5 days, involving the necessity of emptying the gastric remnant by means of nasogastric tube, then diagnostic assessment is indicated by means of a CT scan using oral contrast. It will help not only for diagnosing the level of the obstruction but also for ruling out abscesses or leakages that should be treated first. Stenosis may be found at the level of the esophago-jejunostomy, the gastro-jejunostomy, or after a Billroth II anastomosis at the afferent or efferent loop. Gastroscopy is the next step in order to assess the stenosis/obstruction and to evaluate the possibility for dilatation therapy. If possible, progressive balloon dilatation done in several sessions will be the treatment of choice [1].

Decompression of the stomach is the initial step, along with adequate feeding by means of intestinal feeding tube introduced by the gastroscopist distal of the stenosis or by TPN.

Treatment depends on the diagnosis. If abscesses are present, these must first be drained percutaneously before the dilatation program can be started. If there is only stenosis, a dilatation program will be scheduled. Dilatation by means of a balloon will frequently lead to optimal results. Currently, most of literature is based on

balloon dilatation for stenosis of anastomosis after gastric bypass for morbid obesity showing that dilatation is safe and efficient to solve the problem [1, 2].

If dilatation is not possible or obstruction is complete because of a technical problem, such as internal hernia or torsion, then reoperation will need to be planned.

References

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