

Hiatus hernia – Late complication after gastrectomy followed by double tract reconstruction (DTR): a case report

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ABSTRACT

In patients with dyspeptic symptoms who have been treated for gastric cancer, other medical conditions apart from cancer recurrence should be considered. A long small-bowel loop left after esophagogastric anastomosis, flaccid diaphragmatic crura, and several external factors such as hard physical exertion can promote the development of postoperative hiatus hernia. The authors of this paper present a rare case of hiatus hernia considered a late complication of primary surgery performed due to gastric cancer. The 63-year-old patient had undergone total gastrectomy with double tract reconstruction (DTR) six years earlier. Gastrectomy was performed with extended lymphadenectomy (>D2). Histopathologic examination of tumor

specimens showed mucinous adenocarcinoma with no lymph node metastasis and no distant metastases (pathologic staging: pT2, pN0, pM0). After six years, the patient was admitted to the 2nd Department of General and Gastroenterologic Surgery with abdominal pains, malaise, weight loss and feeling of fullness after small meals. Diagnostic procedures performed showed the presence of hiatus hernia, a very rare complication after this particular surgery, with no features of cancer recurrence. The patient was underwent surgery and the hernia was successfully repaired.

Key words: Gastric cancer; hiatus hernia; late complication, surgery

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INTRODUCTION

For the patients with gastric tumors, of whom nearly 95% are being diagnosed with gastric cancer, the only method of therapy proven effective is surgery. Total gastrectomy, being the most common surgical procedure in those cases, is very extensive and may lead to a number of complications, such as fistulas in areas of reconstruction, and cancer recurrence. Among all complications described in literature, hiatus hernia remains one of the most uncommon with only a few cases reported. In this case report, the authors describe how factors like long small-bowel loop left after esophagogastric anastomosis, flaccid diaphragmatic crura and hard physical work can affect late complications. It is worth mentioning that six years after primary surgery, there were no signs of cancer recurrence in this patient.

Case description

A 63-year-old male patient was admitted to the Department due to the abdominal pains, malaise, loss of 4kg of body weight and feeling of fullness after meals. The symptoms started 4 months earlier, gradually increasing. Six years earlier the patient had undergone radical (R0) total gastrectomy for the cancer of gastric corpus and local lymphadenectomy >D2, followed by “double tract reconstruction” (DTR) (Fig. 1) [1]. The histopathological analysis of the postoperative specimen revealed stage Ib mucinous adenocarcinoma with no lymph node metastases and no far metastases as well (pathologic staging: pT2, pN0, pM0; T – tumor, N – metastases to lymph nodes, M – far metastases to other organs or tissues) [2]. The postoperative period was unremarkable. The patient was discharged home on day 10 after surgery in good general condition, with postoperative wound healed.

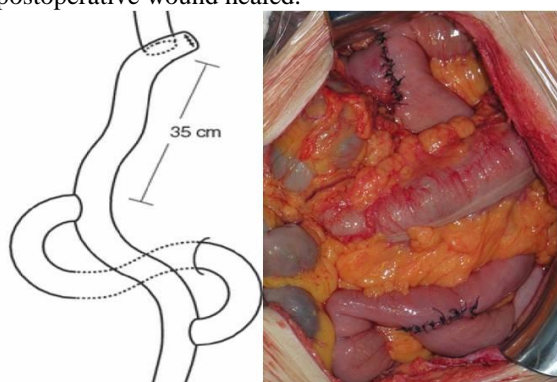


Figure 1. The gastrointestinal reconstruction scheme (double tract reconstruction – DTR; according to Iwahashi et al. 2009) [3] and an intraoperative image (on the right).

A year after surgery, the patient returned to normal activity, with a few breaks when ill or convalescent. For the first 5 years following the surgery, the patient had annual check-ups, which included physical examination, ultrasound examination of the abdomen, endoscopy of the upper gastro-intestinal tract with the evaluation of esophagointestinal anastomosis and contrast radiography of the upper gastrointestinal tract. The levels of CEA and CA19.9 were regularly checked, and full blood count with blood smear was done. The results of all the laboratory tests performed after the surgery were normal. Six years after surgery, the patient presented himself at the Department with the above symptoms and was subjected to diagnostic procedures. Despite an early stage of the disease at the time of the primary operation, the symptoms caused suspicion of relapse. On admission, the physical examination revealed no abnormalities; chest X-ray, abdominal ultrasound and endoscopy of the upper gastrointestinal tract were insignificant. Tumor marker levels were normal. However, contrast radiography of the upper gastrointestinal tract showed the presence of hiatus hernia. The hernia sac pressed on the lower part of the esophagus, causing its dilation above the blockage (Figure 2a). The patient was qualified for surgery, which confirmed hiatus hernia.



Figure 2a, 2b. Contrast radiogram of the upper gastrointestinal tract with a visible hiatus hernia (Fig. 2a; on the left) and an intraoperative image of the hernia porta (Fig 2b; on the right).

The hernia porta were localized between the right diaphragmatic crus and the esophagus. The hernia contained a fragment of a small bowel loop used for esophagointestinal anastomosis, which passed through the hernia porta to the chest, causing the patient's complaints. However, no features of recurrence were noted. The bowel loop was evacuated to the abdomen. The hernia porta were closed by stitching the diaphragmatic crura. The postoperative period was unremarkable. The patient resumed full oral diet and was discharged on day 6 after surgery with no dyspeptic symptoms.

DISCUSSION

Gastric cancer patients have a poor prognosis in general. Postoperative survival depends on tumor stage at the time of diagnosis and on a histological type of the tumor [4-11]. The surgical treatment involves resection of the organ and local lymph nodes. Total gastrectomy, being the most common, is an extensive procedure that may lead to a number of complications [12-14].

Hiatus hernia after gastrectomy is extremely rare [15, 16]. In this case, it developed late after surgery, probably due to hard physical work, but it can also be promoted by anatomical conditions. When DTR is used to reconstruct the gastrointestinal tract, the small bowel loop should remain slightly longer than in the case of Roux-en-Y surgery, to allow additional intestine-duodenal anastomosis (Figure 1) with no tension between the organs. However, the loop cannot be too long to avoid its displacement in the epigastrium, which with flaccid crura may lead to the formation of hiatus hernia.

Patient's qualification for re-operation is a difficult decision to make. Even with tumors resected at an early stage, after a 6-year follow-up a high percentage of patients may experience local recurrence or lymph node involvement. At present, one of the only diagnostic methods capable of showing features of relapse is PET-CT, which is available in major clinical centers. Other diagnostic tests are unable of confirming or excluding relapse of the disease definitely.

On the other hand, cancer growth increases intra-abdominal pressure, which may facilitate formation or enlargement of the already existing hernias, also the inner ones [17, 18].

CONCLUSIONS

Patients with a history of tumor resection who complain of dyspeptic symptoms, also those with poor prognosis, may suffer from other diseases than cancer recurrence. All necessary diagnostic procedures should be performed to recognize the problem, and patients in good general condition should have the laparotomy done. Hiatus hernia is a very rare complication after gastrectomy. A long small-bowel loop left after esophagogastric anastomosis, flaccid diaphragmatic crura and some external factors, such as hard physical work, can promote the development of postoperative hiatus hernia.

Conflicts of interest

The authors declare that they have no conflicts of interest.

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