LAPAROSCOPY-ASSISTED TOTAL GASTRECTOMY WITH D2 LYMPHADENECTOMY AND ROUX-EN-Y RECONSTRUCTION – CASE REPORT

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We report a case of patient with stage IIIb gastric cancer qualified for laparoscopy – assisted gastrectomy and our first impressions about this procedure. Total gastrectomy with complete omentectomy and extended lymphadenectomy (D2) was performed laparoscopically. The intestinal continuity was restored in a Roux-en-Y mode extracorporeally through the abdominal access system. The orogastric tube with anvil of the circular stapler was transorally introduced into the esophagus. Subsequently, intracorporeal stapling esophagojejunostomy was performed. There were no complications after the operation and the patient was discharged in good shape. Oncological radicality was sufficient and patient has undergone chemotherapy treatment.

Key words: gastric cancer, total gastrectomy, laparoscopy

Gastric cancer is one of the most common malignant tumors, placing it in 2008 in fourth place after lung, breast and colorectal carcinoma (1). Despite the continuous development in medicine and introduction of novel therapeutic methods, gastrectomy remains the basic method of treatment, its scope focusing on oncological radicality (2). For the past several years laparoscopic gastrectomy, as an alternative method of treatment is gaining recognition amongst surgeons worldwide and the number of performed operations is continuously increasing.

Many times in literature data Asian countries, such as Japan and Korea have been cited as an example, where laparoscopic procedures have become a standard (3, 4, 5).

Although laparoscopic methods have many advantages over classical procedures, such as lower intensity of postoperative pain, less intra- and postoperative blood loss, as well as shorter hospitalization (6-12), but still, their disadvantage is the long learning curve (7, 13, 14, 15).

In Poland, laparoscopic gastrectomy procedures are performed since 2008, but despite the undeniable advantages, they are rarely performed, in comparison to classical procedures.

CASE REPORT

A 69-year old male patient was admitted to the Department of Surgery with diagnosis of gastric carcinoma. Diagnosis was established at the Department of Internal Diseases where he was hospitalized, due to anemia, epigastric pain, significant weight loss (approximately 20 kg during a period of 3 months) and gastrointestinal bleeding (melena).

During diagnostics the patient underwent endoscopy which revealed the presence of a large ulceration located near the pylorus. Samples were collected for histopathological evaluation. The result of the above-mentioned was as follows: adenocarcinoma exulceratum.
Imaging examinations, such as abdominal ultrasound and CT showed no lymph nodes infiltration, or distant metastases. The patient had a history of concomitant diseases, such as ischemic heart disease, arterial hypertension, and type 2 diabetes mellitus.

On admission, the patient’s BMI was 24.3 with symptoms of mild malnutrition. Laboratory results were as follows: E – 4.33 mln/mm³, HgB – 10.3 g%, Ht – 34.5%, PLT – 438 th/mm³, L – 8.4 th/mm³). The TP level amounted to 6 g/dl. The remaining laboratory results were within normal limits. The patient was qualified for surgical treatment.

Surgical technique

Under general anesthesia the patient was placed in the reverse Trendelenburg position. The surgeon took up his position between the patient’s legs, the first assistant on his right side, and the second assistant on his left side.

A 12 mm video trocar was introduced above the navel. Pneumoperitoneum was created using carbon dioxide, obtaining a pressure of 12 mm Hg, followed by the introduction of four trocars under visual control – 12 mm, 10 mm and two 5 mm (fig. 1).

Exploration of the abdominal cavity revealed no free fluid or liver, peritoneal, and greater omentum metastases.

Using the harmonic knife the greater omentum was dissected from the transverse colon, the greater curvature of the stomach and short vessels were prepared with the spleen left intact. The pylorus was prepared visualizing the neoplastic infiltration, reaching 2 cm in the direction of the gastric angle. The duodenum was severed by means of a linear stapler below the pylorus.

Lymphadenectomy was performed along the hepatic artery, followed by lymphadenectomy of the celiac trunk after preparation, clipping, and severing of the left gastric vessels.

The abdominal segment of the esophagus was prepared, closed and severed by means of the stapler. Mini-laparotomy was performed secured by a laparoscopic disc, followed by the removal of the sample (fig. 2).

By means of the gastric tube the probe of the stapler was introduced into the esophagus (nr 25). On the basis of the previously performed mini-laparotomy the first loop of the small bowel was exteriorized and the Roux loop was created- anastomosis using the double-layered continuous suture. The loop was anastomosed to the esophagus by means of the stapler (nr 25): end-to-side. Situational sutures were added around the anastomosis. Two drains were placed in the abdominal cavity.

The total duration of the procedure was 265 minutes and intraoperative blood loss amounted to 250 ml. During the course of anesthesia no complications were observed. A naso-intestinal probe was introduced followed by antibiotic prophylaxis.

On the day of the surgical procedure „0” the patient’s condition was closely monitored-the patient had no pulmonary or circulatory insufficiency, diuresis was normal.
Laparoscopy-assisted total gastrectomy with D2 lymphadenectomy and Roux-en-Y reconstruction

In successive days the patient was on parenteral nutrition (nine days after surgery).

Analgesia consisted in the intravenous epidural administration of marcaine and paracetamol, being highly effective. Until the third day after surgery the patient estimated the degree of pain at 1 point, according to the NRS scale. Afterwards analgesics were administered “on demand”-mild pain was reported. Abdominal drains and the intestinal probe were removed on the fourth postoperative day. On the fifth day after surgery the leak test was performed of the esophagointestinal anastomosis - normal values were obtained with proper efferent loop contrasting. Since that time the patient received oral fluids followed by a semi-fluid diet.

First peristalsis tones were heard on the second day after surgery with the first stool observed on day 3.

Despite the administration of broad-spectrum antibiotics the patient complained of fever (maximum 38.5°C), which resolved on the fifth postoperative day. The patient was discharged from the hospital in good general condition, with properly healed postoperative wounds and pain free.

The patient reported for control visits at the Outpatient Surgical Clinic, one week, two weeks, and one month after hospital discharge. The physical examination of the abdomen showed no abnormalities with postoperative wounds healing properly.

The cosmetic effect was very satisfactory (fig. 3).

The patient was on 4-5 small meals daily, with defeation 1-2 daily, did not complain of pain, had no fever. The patients’ condition does not limit his everyday activities and he assessed the procedure and results as very positive. The patient remains under the Outpatient Oncology Clinic and began chemotherapy.

The histopathological result of the removed sample was as follows: adenocarcinoma partim carcinoma mucocellulare G3. The clinical stage of the disease was pT3 N3a Mx, type IV according to Goseki, mixed type, according to Lauren. The tumor infiltrated the gastric wall, margins being free of cancer. The 12 removed lymph nodes showed metastatic foci (<0.5 cm).

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Fig. 3. Postoperative scars


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