

UDC: 616-006.699:617-089

Y.B. IZHANOV¹, S.K. MENBAEV¹, R.E. KADYRBAEVA¹
¹Kazakh Institute of Oncology and Radiology, Almaty, the Republic of Kazakhstan

The role of catheter jejunostomy in the esophageal-intestinal anastomosis failure: clinical case

Relevance: *The total incidence of stomach cancer (SC) is decreasing; however, the incidence of cancer of the proximal section of the stomach and cardioesophageal cancer (CEC) is increasing. Together, these two cancers make 37% of all SC localizations. At that, most of the patients with CEC are admitted to hospital at advanced stages of cancer. Some researchers report that 80-85% of CEC cases are diagnosed at stages III-IV of the tumor process. Proximal stomach cancers are the 6th most common cause of death from cancer and the 9th most common cause of death worldwide. Modern literature does not cover enough the conservative treatment in case of failure of esophageal-intestinal anastomosis in CEC and SC involving the esophagus.*

Despite improvements in the surgical method of treating cancer of the stomach and esophagus, postoperative complications are still quite frequent due to the high complexity and trauma of these operations. The failure of the esophageal-intestinal anastomosis remains the most dangerous complication. According to the literature, it develops in 2-14% of patients. In a retrospective multicenter study, the anastomosis failure was the cause of death within 30 days after surgery in 30% of cases. Aurello reports the overall mortality of 26.32%. Complete healing of the anastomosis can be achieved within 7-28 days in the group receiving conservative treatment. A conservative approach should always be considered as a method of choice.

Purpose of the study is to assess the effectiveness of catheter jejunostomy as a method of conservative treatment of esophageal-intestinal anastomosis failure during operations for stomach cancer.

Results: *The provided clinical case demonstrates that, in case of esophageal-intestinal anastomosis failure, the conservative treatment, including adequate drainage of the abdominal cavity, control of the total blood protein, maintaining stable homeostasis against adequate nutritional support via a catheter jejunostomy, allows achieving complete healing of the esophageal-intestinal anastomosis.*

Conclusion: *The implemented catheter jejunostomy technique allows limiting the use of surgical treatment as a method of choice in the failure of esophageal-intestinal anastomosis. Adequate nutritional support of patients allows maintaining the homeostasis indicators within normal limits what ultimately leads to a healing of the occurring complication.*

Keywords: *stomach cancer, failure of esophageal-intestinal anastomosis, catheter jejunostomy.*

Introduction. Recently, the total incidence of stomach cancer (SC) is decreasing; however, the incidence of cancer of the proximal section of the stomach and cardioesophageal cancer (CEC) is increasing. Together, these two cancers make 37% of all SC localizations. At that, most of the patients with CEC are admitted to hospital at advanced stages of cancer. Some researchers report that 80-85% of CEC cases are diagnosed at stages III-IV of the tumor process. In the UK, 50% of patients have unresectable tumors or distant metastases at primary diagnosis [2]. Proximal stomach cancers are the 6th most common cause of death from cancer, and the 9th most common cause of death worldwide [3].

Despite improvements in the surgical method of treating stomach cancer and esophagus cancer, postoperative complications are still quite frequent due to the high complexity and trauma of these operations. The failure of the esophageal-intestinal anastomosis remains the most dangerous complication. According to the literature, it develops in 2-14% of patients [1].

In a retrospective multicenter study, the anastomosis failure was the cause of death within 30 days after surgery in 30% of cases [4]. The overall mortality reaches 26.32% [5]. Complete healing of the anastomosis can be achieved

within 7-28 days in the group receiving conservative treatment. A conservative approach should always be considered as a method of choice [5].

Modern literature does not cover enough the conservative treatment in case of failure of esophageal-intestinal anastomosis in CEC and SC involving the esophagus.

This category of patients is of undoubted scientific and practical interest.

The article presents a case of successful conservative therapy with catheter jejunostomy after the failure of the esophageal-intestinal anastomosis.

Patient information. Patient B., 67 years old, was admitted to the Center of Thoracic Oncology of the Kazakh Institute of Oncology and Radiology, JSC (KAZIOR) with the diagnosis: "Cancer of the proximal stomach with the abdominal esophagus spreading. Grade III. T3NxM0. Dysphagia grade III."

Disease history: The patient reported general weakness and pain in the epigastrium since January 2017. He noted problems with gastric transit of rough and thick food, loss of weight (7-8 kg in 3 months). Esophagogastroduodenoscopy: "Cancer of the gastric cardia with the transition to the lower third of the esophagus? Stenosis. Histology – Gastric adenocarcinoma, G-II". The patient was

admitted to the Center of Thoracic Oncology of KAZIOR for surgical treatment.

General state at admission: General state – relatively satisfactory, stable. Consciousness – clear, adequacy – preserved. Arterial Tension: 120/80 mm Hg. Pulse: 80 bpm. Temperature: 36.4°C. C. Breathing – vesicular, respiration rate – 15/min, no rales. Heart tones – clear, the rhythm – correct. The tongue – wet. The abdomen – soft, symmetrical, not swollen. The abdomen – soft, painless on palpation. No peritoneal signs. Urination – natural. Peristalsis – active. Defecation – independent.

Examination at admission:

Radiographic contrast study of the esophagus and stomach: The esophagus is unobstructed till the epiphrenic segment, where “stop contrast” is reported. The entry of contrast in the underlying sections is not registered during the delayed examination after 30 minutes, 60 minutes, 180 minutes, persistent filamentous narrowing of the esophagus is expressed. It is not possible to assess the extent of the lesion, due to the lack of contrast in the lower segments.

Conclusion decision: X-ray image of organic decompensated esophageal stenosis, more characteristic for blastoma (Figure 1).



Figure 1 – Initial image, cardioesophageal blastoma

Computed tomography at admission: CT-picture of organic lesions of the abdominal esophagus and gastric cardia. Involvement of the pancreas tail in the process is not excluded. Lymphadenopathy of perigastric, intra-aortic, and para-aortic lymph nodes. Metastases?

Surgical treatment: Combined extended gastrectomy with resection of the abdominal esophagus, LD-D2. Catheter jejunostomy.

Laboratory tests, Day 3 after surgery: Total protein – 57.4 g/l, WBC – 11.61;

Laboratory tests, Day 18 after surgery: Total protein – 69.6; WBC – 17.23;

Laboratory tests, Day 30 after surgery: Total protein – 62.2 g/L, WBC – 6.53;

Laboratory tests, Day 45 after surgery: Total protein – 65.8 g/L, WBC – 16.45;

Laboratory tests, Day 48 after surgery: WBC – 6.0.

Postoperative histology: Adenocarcinoma, GII of the stomach with invasion into all layers of the wall and omentum invasion, with foci of comedo necrosis.

In the lymph nodes No. 1, 3,6,7,8,9,12, tumor metastases were not detected.

In the lymph nodes No. 2, the lymph nodes of the lesser omentum the metastasis is determined. Greater omentum is of normal structure.

On Day 6 after surgery, after the removal of the drainage tube, the intestinal discharge flows from the wound of the abdominal cavity on the left. A radiographic contrast study of the esophageal-intestinal anastomosis has been recommended.

Radiographic contrast study of the esophageal-intestinal anastomosis: X-ray image of post-surgery status (gastrectomy), failure of the anastomosis, violation of the innervation of the small intestine (Figure 2).



Figure 2 – Day 6 after gastrectomy

Considering the clinical and radiological data of the failure of the esophageal-intestinal anastomosis, per os nutrition was limited to the patient; nutritional support was provided exclusively through catheter jejunostomy. The drainage tube was washed with antiseptic solutions (Furacilin, betadine) and re-installed through the old pas-

sage at the left side of the abdominal cavity.

A control radiographic contrast study of the esophageal-intestinal anastomosis, Day 21 after surgery: X-ray image of post-surgery status (gastrectomy), failure of the anastomosis, a violation of the innervation of the small intestine. There is a stable picture over time (Figure 3).

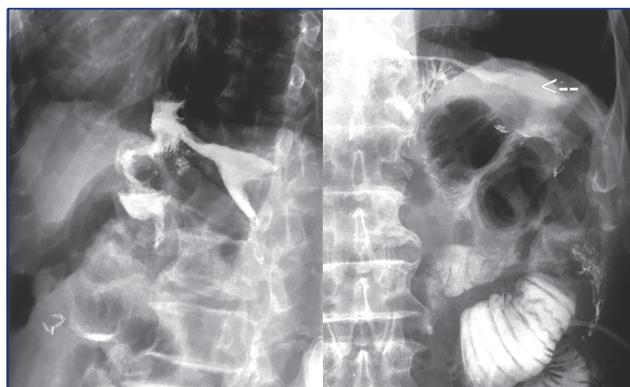


Figure 3 – Day 21 after gastrectomy

Control radiographic contrast study of the esophageal-intestinal anastomosis, Day 35 after surgery: X-ray image of post-surgery status (gastrectomy), anastomosis,

the violation of innervation of the small intestine. There is lower lobe pneumonia at the right. The cessation of the flow of contrast beyond the anastomosis is registered over time.

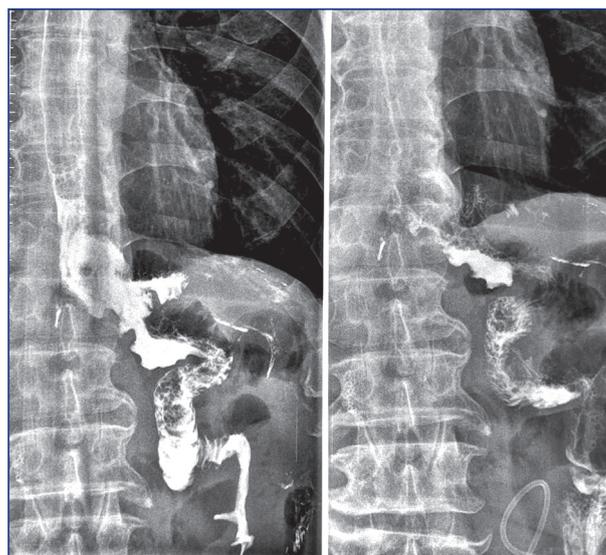


Figure 4 – Day 36 after gastrectomy

The discharge flow through the drainage tube was not noted over time; the drainage tube was removed on the 36th day after the operation. The patient's condition has improved; the patient was discharged in a relatively satisfactory condition for outpatient monitoring and treatment.

Conclusions: The implemented catheter jejunostomy technique allows limiting the use of surgical treatment as a method of choice in the failure of esophageal-intestinal anastomosis. Adequate nutritional support of patients allows maintaining the homeostasis indicators within normal limits what ultimately leads to a healing of the occurring complication.

References:

1. Chernousov A.F. et al. Nesostoyatel'nost' shvov pishchevodo-kishechnogo anastomoza u patsiyentov s kardioezofageal'nym rakom [The failure of the esophageal-intestinal anastomosis sutures

in patients with cardio esophageal cancer] // *Novosti khirurgii [Surgery News]*. – 2011. – № 4. – С.16–23;

2. Volkov M.YU. Otsenka effektivnosti khirurgicheskogo lecheniya i kachestva zhizni bol'nykh kardioezofageal'nym rakom [Evaluation of the effectiveness of surgical treatment and the quality of life of patients with cardioesophageal cancer] // *Synopsis of thesis ... Candidate of Medicine: 14.01.12. – Tomsk: Tomsk Research Institute of Oncology, 2014. – 180 p. Russian;*

3. Vychuzhanin D.V. Khirurgicheskoye lecheniye kardioezofageal'nogo raka [Surgical treatment of cardioesophageal cancer] // *Synopsis of thesis ... Candidate of Medicine: 14.00.27. – Moscow: I.M. Sechenov Moscow Medical Academy, 2010. – 133 p. Russian;*

4. Robb W.B., Messenger M., Goere D. et al. Predictive factors of postoperative mortality after junctional and gastric adenocarcinoma resection // *JAMA Surg.* – 2013. – №148. – P. 624–631;

5. Aurello P. et al. Treatment of Esophagojejunal Anastomosis Leakage: A Systematic Review from the Last Two Decades // *The American Surgeon.* – 2015. – № 5. – P.450–453.