UDC 616.329:616.34]-089.86-089.834-042.2
DOI http://doi.org/10.30978/GS-2024-4-44

ISSN 2786-5584 print
ISSN 2786-5592 online

Endoscopic stent placement in the management of esophagojejunal anastomosis leakage

O. Dobrzhanskyi, Y. Kondratskyi, E. Kozak, A. Kolesnyk, M. Pepenin, Y. Shudrak, A. Horodetskyi, V. Turchak, A. Omelchak, N. Koval, Y. Svichkar, I. Ukrainets

National Cancer Institute, Kyiv

✉ Oleksii Dobrzhanskyi: oleksii.dobrzhanskyi@unci.org.ua

O. Dobrzhanskyi, http://orcid.org/0000-0001-9422-4977
Y. Kondratskyi, http://orcid.org/0000-0003-3664-5903
E. Kozak, http://orcid.org/0009-0005-0726-2307
A. Kolesnyk, http://orcid.org/0009-0005-1824-3179
M. Pepenin, http://orcid.org/0009-0008-1803-1979
Y. Shudrak, http://orcid.org/0009-0003-6270-2518
A. Horodetskyi, http://orcid.org/0009-0003-7902-9809
V. Turchak, http://orcid.org/0000-0002-1002-4466
A. Omelchak, http://orcid.org/0009-0004-1658-2292
N. Koval, http://orcid.org/0009-0006-0195-0798
Y. Svichkar, http://orcid.org/0009-0008-5682-1234
I. Ukrainets, http://orcid.org/0009-0009-3968-2858

Objective — to evaluate the effectiveness of endoscopic stent placement compared to surgical methods for the management of esophagojejunal anastomosis leakage (AL) after gastrectomy at the National Cancer Institute (NCI) from November 2017 to November 2019.

Materials and methods. The study included patients receiving treatment at the Upper Gastrointestinal Oncology Department of the National Cancer Institute between November 2017 and November 2019. Throughout this period, 186 total gastrectomies were performed. 13 (6.9 %) patients developed an anastomotic leak in the postoperative period. All patients had Roux-en-Y esophagojejunostomy. 6 patients (46.1 %) underwent endoscopic stent placement in the AL area, along with perianastomotic drainage positioning and enteral feeding via a naso-intestinal tube. Of the remaining patients, 7 (53.9 %) underwent surgical treatment, including esophagostomy or esophageal stump formation with a nutritional jejunostomy. This manuscript employed methods of descriptive statistics.

Results. Endoscopic stent placement was successful for 5 patients. Complete defect closure following stent placement was confirmed in 5 patients (83.3 %) using endoscopic and radiological methods. The mean hospital stay in the stent group was 15.4 days (range: 9—22 days). The mean time for endoscopic stent removal during rehospitalization was 49.5 (33—62 days) days after initial placement. Complications associated with AL, specifically sepsis resulting from infection in the AL area, led to the death of 1 (16.7 %) patient in the stent group. Surgical treatment was successful in 5 patients (71.4 %). 2 patients (28.6 %) died due to infectious complications and multiple organ failure syndrome. The average hospital stay for surgical patients was 32.8 (19—40) days. Mortality rates were 16.7 % and 28.6 % for the stent placement and surgical groups, respectively.

Conclusions. Endoscopic endoluminal stent placement in the area of AL using self-expandable metallic stents combined with local drainage and enteral nutrition is a promising method for treating esophagojejunal anastomotic leakage after total gastrectomy. This study demonstrates that endoscopic stent placement reduces hospital stay and mortality rates compared to surgical methods. Endoscopic stent placement provides effective defect closure with fewer complications. However, surgical treatment remains indispensable in cases of severe sepsis or failure of conservative methods, despite the high mortality risk. Further studies are needed to develop standardized approaches for selecting treatment methods based on leak size and the patient's overall condition.

Keywords
gastric cancer, total gastrectomy, anastomotic leakage, intraluminal stent.

ARTICLE • Received 2024-11-05 • Received in revised form 2024-12-09
© 2024 Authors. Published under the CC BY-ND 4.0 license

Gastric cancer is the fifth most commonly diagnosed malignancy worldwide and the third leading cause of cancer-related mortality [5, 29]. Globally, over one million new cases of gastric cancer are diagnosed annually [11]. Surgical intervention remains the cornerstone of treatment, particularly when combined with perioperative chemotherapy, which improves five-year recurrence-free survival rates to approximately 40 % and overall five-year survival rates to 45 % [2]. The standard surgical approach involves tumour resection through total gastrectomy or distal subtotal gastrectomy, accompanied by systematic lymphadenectomy [1, 19].

The complexity and extent of these surgical procedures are associated with a significant risk of postoperative complications and mortality. Esophagojejunal anastomotic leakage (AL) is a severe complication of total gastrectomy and an independent prognostic factor for reduced survival following gastric cancer surgery [9, 26, 30]. The incidence of AL ranges from 3.3 % to 9.8 % among patients undergoing surgical treatment [4, 18, 20]. This complication often delays the initiation of adjuvant chemotherapy, thereby reducing the overall efficacy of oncological treatment and negatively impacting long-term survival. Additionally, AL imposes a substantial financial burden on both patients and healthcare systems [13].

While surgical intervention is one option for managing AL, it is associated with high mortality rates and frequently results in long-term disability [3, 28]. Advances in technology have enabled the adoption of minimally invasive and endoscopic techniques [23, 24]. The use of metallic stents, combined with drainage of the anastomotic defect area, was first introduced in the 1990s and has demonstrated success rates of 69 %–77 % [14]. Esophageal stenting has become an established method for managing dysphagia in patients with locally advanced or metastatic esophageal cancer [8]. Currently, there is no standardized protocol for the management of AL. However, minimally invasive approaches are generally favoured due to their potential to improve both immediate and long-term outcomes [6, 7]. Surgical treatment is typically reserved for cases involving severe sepsis or failure of alternative methods, despite its high associated mortality rates [12, 25]. When conservative therapy fails, timely surgical intervention remains crucial.

Objective — to evaluate the effectiveness of endoscopic stent placement compared to surgical methods for the management of esophagojejunal anastomosis leakage (AL) after gastrectomy at the National Cancer Institute (NCI) from November 2017 to November 2019.

Materials and methods

The study included patients receiving treatment at the Upper Gastrointestinal Oncology Department of the National Cancer Institute between November 2017 and November 2019. Throughout this period, 186 total gastrectomies were performed. 13 (6.9 %) patients developed an anastomotic leak in the postoperative period. All patients had Roux-en-Y esophagojejunostomy.

6 patients (46.1 %) underwent endoscopic stent placement in the AL area, along with perianastomotic drainage positioning and enteral feeding via a naso-intestinal tube. Of the remaining patients, 7 (53.9 %) underwent surgical treatment, including esophagostomy or the formation of an esophageal stump with a nutritional jejunostomy.

All patients included in this study had undergone total gastrectomy for the treatment of gastric cancer. Patients presenting with leakage of gastrointestinal or esophagocolonic anastomoses were excluded from the study.

This manuscript employed methods of descriptive statistics.

Patient characteristics

13 patients were retrospectively included in this study and categorized into two groups: those who underwent surgical intervention and those treated with endoscopic stent placement (Table). All patients had histologically confirmed gastric adenocarcinoma and received neoadjuvant chemotherapy followed by total gastrectomy performed through an abdominal approach.

Treatment approach

Stent placement or surgical treatment were both available options for AL treatment. The method of treatment depended on orifice dimensions, the clinical status of patients, the results of blood tests, and the radiological and endoscopic data for each particular patient.

Results

Endoscopic stent placement was successful for 5 patients. Complete defect closure following stent placement was confirmed in 5 patients (83.3 %) using endoscopic and radiological methods. The mean hospital stay in the stent group was 15.4 days (range: 9—22 days). The mean time for endoscopic stent removal during rehospitalization was 49.5 (33—62 days) days after initial placement. Complications associated with AL, specifically sepsis resulting from infection in the AL area, led to the death of 1 (16.7 %) patient in the stent group.

Table. **Characteristics of patients**

No	Age, years	Gender	TNM	Defect size, mm	Time for stent removal, day	Treatment	Localization of anastomosis leakage	Treatment outcome
1	67	Male	$T_{4a}N_1M_0$	7	38	Stent placement	Intra-abdominal	Sepsis, MODS
2	39	Male	$T_{4a}N_1M_0$	10	49	Stent placement	Intra-abdominal	Complete closure of the defect
3	71	Male	$T_3N_1M_0$	14	–	Surgical treatment	Intrathoracic	Complete closure of the defect
4	54	Male	$T_3N_1M_0$	14	–	Surgical treatment	Intrathoracic	Complete closure of the defect
5	51	Male	$T_{4a}N_1M_0$	4	–	Surgical treatment	Intra-abdominal	Complete closure of the defect
6	57	Male	$T_3N_3M_0$	5	33	Stent placement	Intra-abdominal	Complete closure of the defect
7	67	Male	$T_{4a}N_1M_0$	10	–	Surgical treatment	Intrathoracic	Sepsis, MODS
8	69	Female	$T_3N_1M_0$	5	56	Stent placement	Intra-abdominal	Complete closure of the defect
9	60	Female	$T_{4a}N_0M_0$	3	–	Surgical treatment	Intrathoracic	Complete closure of the defect
10	41	Male	$T_3N_0M_0$	14	–	Surgical treatment	Intra-abdominal	Complete closure of the defect
11	70	Male	$T_2N_2M_0$	7	62	Stent placement	Intra-abdominal	Complete closure of the defect
12	62	Female	$T_{4a}N_2M_0$	13	–	Surgical treatment	Intra-abdominal	Sepsis, MODS
13	57	Male	$T_3N_0M_0$	6	59	Stent placement	Intrathoracic	Complete closure of the defect

Surgical treatment was successful in 5 (71.4 %) patients. 2 (28.6 %) patients died due to infectious complications and multiple organ failure syndrome. The average hospital stay for surgical patients was 32.8 (19—40) days. Mortality rates were 16.7 % and 28.6 % for the stent placement and surgical groups, respectively.

A total of 6 self-expanding metallic stents (SEMS) were placed during the study period. 3 patients required stent repositioning or replacement due to complications, including stent migration (2 cases) and bleeding at the stent site (1 case).

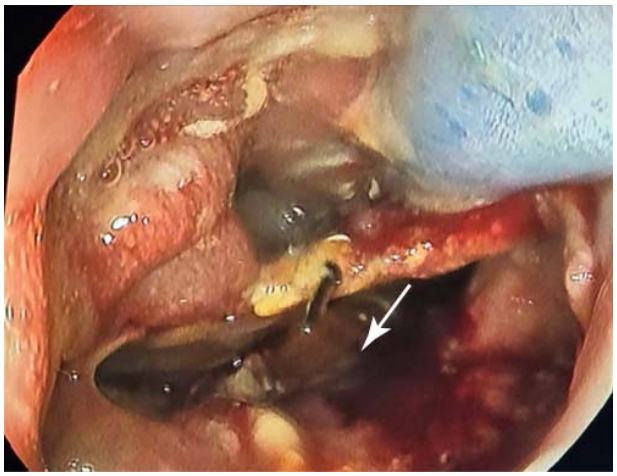

Figure 1. **Endoscopy of the AL**

Informed consent was obtained from all patients before undergoing endoscopic stent placement, drainage procedures, or surgical interventions. Adequate drainage of the leakage site was achieved intraoperatively or postoperatively under computed tomography (CT) guidance.

Self-expanding nitinol stents with a working diameter of 22 mm and a length of 120 mm were utilized for endoscopic stent placement, which was performed under general anesthesia.

8 identified anastomotic were located intra-abdominally, and five were found intrathoracically. All patients presented in a moderate clinical condition and did not require respiratory or cardiovascular support.

Diagnosis of anastomotic leakage

The diagnosis of esophagojejunal anastomosis leakage was made using CT imaging with oral iodine-based contrast agent and endoscopic evaluation (Fig. 1—3). Defect sizes, ranging from 3 mm to 14 mm, were measured endoscopically in millimetres. AL was confirmed through the identification of air or contrast outside the anastomotic lumen on CT imaging or visualization of the defect during endoscopy. In addition, drain output was assessed following oral administration of a dye to confirm the presence of leakage.

Mortality rates were 16.7 % and 28.6 % for the stent placement and surgical groups, respectively.

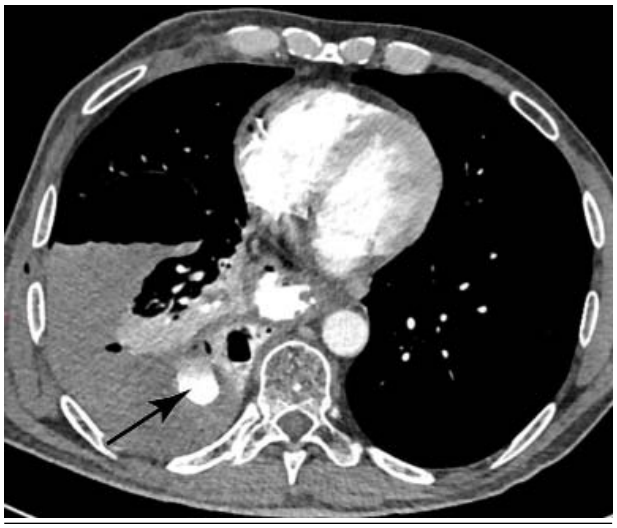

Figure 2. **CT imaging with oral iodine-based contrast agent: leakage through a defect to the right pleural cavity**

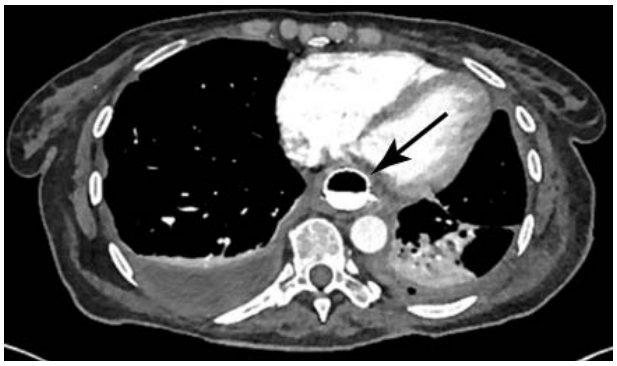

Figure 3. **CT with intravenous and oral contrast after stent placement**

Discussion

Esophagojejunal anastomosis leakage remains a formidable complication associated with the surgical management of gastric cancer, requiring substantial resources and imposing significant burdens on medical staff, patients, and their families.

According to current literature, the indications for endoscopic stenting are typically limited to defects less than 20 mm in size or involving less than 70 % of the anastomotic circumference, as well as the time elapsed from leakage diagnosis to intervention [16, 17]. In this study, endoscopic stent placement was performed for defects measuring 5—10 mm, aligning with established recommendations. However, no universally accepted minimal or maximal defect size thresholds exist to predict the effectiveness of stenting in achieving better control of perianastomotic infections or shorter healing times.

Feith et al. reported that complete defect closure was achieved after endoscopic stent placement in 70 % of 115 patients with AL following gastrectomy. In our cohort, the success rate of endoscopic stent placement was 83.3 % [10]. Nonetheless, the retrospective nature and relatively small sample size of our study underscore the need for larger prospective studies to validate these findings.

Mortality rates associated with surgical management of AL are markedly higher compared to endoscopic treatment. For instance, mortality following Torek's procedure has been reported to reach 63.0 %, whereas mortality with endoscopic stenting is approximately 28.6 % [21]. It is important to recognize that surgical treatment is often reserved for critically ill patients and is typically considered a second-line option when conservative approaches fail. In our study, surgical treatment achieved a success rate of 71.4 %, with a mortality rate of 28.6 %.

The mean duration of stent placement in our study was 49.5 days (range: 33—62 days), exceeding the average reported in other studies, which ranges from 7 to 120 days, with a mean of 33 days [15]. This difference may reflect limited prior experience with the procedure and the absence of other specialized centres in the region. As a result, stent removal was delayed in cases where the anastomotic seal appeared stable.

Study limitations

This study has several limitations. It represents a retrospective review of a small, heterogeneous cohort of patients with a rare clinical condition. Additionally, the findings reflect the experience of a single centre. Critical variables, such as the time from AL diagnosis to treatment initiation and standardized criteria for selecting specific treatment strategies, were not systematically addressed.

Future research should focus on developing standardized treatment protocols and identifying optimal timing and patient selection criteria for various management approaches to AL.

Conclusions

Endoscopic endoluminal stent placement in the area of AL using SEMS combined with local drainage and enteral nutrition is a promising method for treating esophagojejunal anastomotic leakage after total gastrectomy. This study demonstrates that endoscopic stent placement reduces hospital stay and mortality rates compared to surgical methods. Endoscopic stent placement provides effective defect closure with fewer complications. However, surgical treatment remains indispensable in cases of severe sepsis or failure of conservative methods, despite the high mortality risk.

Further studies are needed to develop standardized approaches for selecting treatment methods based on defect size and the patient's overall condition.

Declaration of interests

The authors declare that there are no conflicts of interest associated with this study.

Funding. The authors received no financial support for the research, authorship and/or publication of the manuscript.

Authors contributions

Each author of the article participated in the retrospective data collection, statistical analysis, and manuscript writing. All the authors have reviewed and approved the finalized manuscript.

References

1. Ajani JA, D'Amico TA, Bentrem DJ, et al. Gastric Cancer, Version 2.2022, NCCN Clinical Practice Guidelines in Oncology. Journal of the National Comprehensive Cancer Network: JNCCN. 2022;20(2):167-92. https://doi.org/10.6004/jnccn.2022.0008.
2. Al-Batran, Salah-Eddin et al. Perioperative chemotherapy with fluorouracil plus leucovorin, oxaliplatin, and docetaxel versus fluorouracil or capecitabine plus cisplatin and epirubicin for locally advanced, resectable gastric or gastro-oesophageal junction adenocarcinoma (FLOT4): a randomised, phase 2/3 trial. Lancet. 2019;393(10184):1948-57. doi:10.1016/S0140-6736(18)32557-1.
3. Aurello P, Magistri P, D'Angelo F, et al. Treatment of esophagojejunal anastomosis leakage: a systematic review from the last two decades. The American Surgeon. 2015;81(5):450-3.
4. Baiocchi GL, Giacopuzzi S, Reim D, et al. Incidence and grading of complications after gastrectomy for cancer using the GASTRODATA registry: a European retrospective observational study. Ann Surg. 2020;272:807-13.
5. Bray F, Laversanne M, Sung H, Ferlay J, Siegel RL, Soerjomataram I, Jemal A. Global cancer statistics 2022: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 2024 May-Jun;74(3):229-63. doi: 10.3322/caac.21834. Epub 2024 Apr 4. PMID: 38572751.
6. Carboni F, Valle M, Federici O, et al. Esophagojejunal anastomosis leakage after total gastrectomy for esophagogastric junction adenocarcinoma: options of treatment. J Gastrointest Oncol. 2016;7(4):515-22.
7. Cengiz M, Odemis B, Durak MB. Endoscopic treatment of esophagogastric and esophagojejunal anastomotic leaks: A single tertiary center experience. Medicine. 2023;102(41):e35582. https://doi.org/10.1097/MD.0000000000035582.
8. Doosti-Irani A, Mansournia MA, Cheraghi Z, Rahimi-Foroushani A, Haddad P, Holakouie-Naieni K. Network meta-analysis of palliative treatments in patients with esophageal cancer. Critical Reviews in Oncology/Hematology. 2021;168:103506. https://doi.org/10.1016/j.critrevonc.2021.103506.
9. Fabbi M, Hagens ERC, van Berge Henegouwen MI, Gisbertz SS. Anastomotic leakage after esophagectomy for esophageal cancer: definitions, diagnostics, and treatment. Dis Esophagus. 2021;34(1):doaa039. doi:10.1093/dote/doaa039.
10. Feith M, Gillen S, Schuster T, Theisen J, Friess H, Gertler R. Healing occurs in most patients that receive endoscopic stents for anastomotic leakage; dislocation remains a problem. Clin Gastroenterol Hepatol. 2011;9(3):202-10.
11. Ferlay J, Ervik M, Lam F, et al. Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer; 2018 [03/20/2019].
12. Girard E, Messager M, Sauvanet A, et al. Anastomotic leakage after gastrointestinal surgery: diagnosis and management. J Visc Surg. 2014;151(6):441-50.
13. Gong W, Li J. Combat with esophagojejunal anastomotic leakage after total gastrectomy for gastric cancer: A critical review of the literature. International Journal of Surgery. 2017;47:18-24. https://doi.org/10.1016/j.ijsu.2017.09.019.
14. Hoeppner J, Kulemann B, Seifert G, et al. Covered self-expanding stent treatment for anastomotic leakage: outcomes in esophagogastric and esophagojejunal anastomoses. Surgical Endoscopy. 2014;28(5):1703-11. https://doi.org/10.1007/s00464-013-3379-4.
15. Kim SY, Kang CH, Park IK, Kim YT. Esophageal stent insertion for postesophagectomy anastomosis site leakage. Clin Exp Otorhinolaryngol. 2016;9(4):382-4. doi:10.21053/ceo.2015.00724.
16. Kim YI, Lee JY, Khalayleh H, Kim CG, et al. Efficacy of endoscopic management for anastomotic leakage after gastrectomy in patients with gastric cancer. Surgical endoscopy. 2022;36(5):2896-905. https://doi.org/10.1007/s00464-021-08582-z.
17. Kim YJ, Shin SK, Lee HJ, et al. Endoscopic management of anastomotic leakage after gastrectomy for gastric cancer: How efficacious is it? Scand J Gastroenterol. 2013;48(1):111-8.
18. Kirkilevsky SI, Krahmalyov PS, Frydel RI. The results of stenting patients with upper-third and middle-third esophageal cancer. National Cancer Institute, Kyiv. https://doi.org/10.32471/clinicaloncology.2663-466X.38.22537 (Ukrainian).
19. Lordick F, Carneiro F, Cascinu S, et al. Gastric cancer: ESMO Clinical Practice Guideline for diagnosis, treatment and follow-up. Ann Oncol. 2022;33(10):1005-20. doi:10.1016/j.annonc.2022.07.004.
20. Maejima K, Taniai N, Yoshida H. Risk factors for esophagojejunal anastomotic leakage in gastric cancer patients after total gastrectomy. J Nippon Med Sch. 2023;90(1):64-8. doi:10.1272/jnms.JNMS.2023_90-111.
21. Makuuchi R, Irino T, Tanizawa Y, et al. Esophagojejunal anastomotic leakage following gastrectomy for gastric cancer. Surg Today. 2019;49:187-96. https://doi.org/10.1007/s00595-018-1726-8.
22. Meyer L, Meyer F, Dralle H, et al. Insufficiency risk of esophagojejunal anastomosis after total abdominal gastrectomy for gastric carcinoma. Langenbecks Arch Surg. 2005;390:510-16.
23. Pattynama LMD, Pouw RE, Henegouwen MIVB, et al. Endoscopic vacuum therapy for anastomotic leakage after upper gastrointestinal surgery. Endoscopy. 2023;55(11):1019-25. https://doi.org/10.1055/a-2102-1691.
24. Raimondo D, Sinagra E, Facella T, et al. Self-expandable metal stent placement for closure of a leak after total gastrectomy for gastric cancer: report on three cases and review of the literature. Case reports in Gastrointestinal Medicine. 2014;2014:409283. https://doi.org/10.1155/2014/409283.
25. Seicean RI, Puscasu D, Gheorghiu A, Pojoga C, Seicean A, Dindelegan G. Anastomotic Leakage after Gastrectomy for Gastric Cancer. Journal of gastrointestinal and liver diseases: JGLD. 2023;32(4):526-35. https://doi.org/10.15403/jgld-5238.
26. Sierzega M, Kolodziejczyk P, Kulig J, Polish Gastric Cancer Study G. Impact of anastomotic leakage on long-term survival after total gastrectomy for carcinoma of the stomach. Br J Surg. 2010;97(7):1035-42.
27. Tokunaga M, Tanizawa Y, Bando E, Kawamura T, Terashima M. Poor survival rate in patients with postoperative intra-abdominal infectious complications following curative gastrectomy for gastric cancer. Ann Surg Oncol. 2013;20(5):1575-83.
28. Ubels S, Verstegen MHP, Klarenbeek BR, et al. Treatment of anastomotic leak after oesophagectomy for oesophageal cancer: large, collaborative, observational TENTACLE cohort study. Br J Surg. 2023;110(7):852-63. doi:10.1093/bjs/znad123.
29. Yang WJ, Zhao HP, Yu Y, et al. Updates on global epidemiology, risk and prognostic factors of gastric cancer. World J Gastroenterol. 2023;29(16):2452-68. doi:10.3748/wjg.v29.i16.2452.
30. Yoo HM, Lee HH, Shim JH, Jeon HM, Park CH, Song KY. Negative impact of leakage on survival of patients undergoing curative resection for advanced gastric cancer. J Surg Oncol. 2011;104(7):734-40.

Ендоскопічне стентування при неспроможності стравохідно-єюнальних анастомозів

О. Добржанський, Ю. Кондрацький, Є. Козак, А. Колесник, М. Пепенін, Є. Шудрак, А. Городецький, В. Турчак, А. Омельчак, Н. Коваль, Я. Свічкар, І. Українець

ДНП «Національний інститут раку», Київ

Мета — оцінити ефективність лікування неспроможності езофагоєюнального анастомозу після гастректомії за допомогою ендоскопічного стентування порівняно з хірургічними методами у відділенні пухлин стравоходу та шлунка Національного інституту раку за період з листопада 2017 р. до листопада 2019 р.

Матеріали та методи. Ретроспективне дослідження проведене в Національному інституті раку з листопада 2017 р. до листопада 2019 р. У дослідження залучили пацієнтів, яким у відділенні пухлин стравоходу та шлунку було виконано 186 тотальних гастректомій з езофагоентеростомією за Ру. У 13 із них (9 чоловіків та 4 жінки віком від 39 до 71 року) підтверджено неспроможність анастомозу (6,9 %). Ендоскопічне стентування анастомозу з додатковим дренуванням зони дефекту анастомозу та ентеральним харчуванням за допомогою назоінтестинального зонда проведено 6 (46,1 %) пацієнтам, решта отримали хірургічне лікування в обсязі езофагостомії або формування кукси стравоходу та нутритивної єюностоми. Ендоскопічне стентування або хірургічне лікування були доступними варіантами для лікування неспроможності анастомозу. Вибір методу лікування залежав від розміру дефекту неспроможності анастомозу, клінічного стану пацієнта, результатів лабораторних, радіологічних та ендоскопічних обстежень. Для обробки даних використано методи описової статистики.

Результати. Ендоскопічне стентування було успішним у 5 пацієнтів. Ендоскопічне видалення стенту виконано в середньому через 49,5 дня (33—62 дні) під час повторної госпіталізації. Повне закриття дефекту після стентування зареєстрували в 5 пацієнтів (83,3 %), що підтверджено за допомогою ендоскопічних і радіологічних методів. Один (16,7 %) пацієнт, якому було виконано стентування, помер через ускладнення, пов'язані з неспроможністю анастомозу (сепсис, спричинений інфекційним процесом ділянки анастомозу). Хірургічне лікування було успішним в 5 (71,4 %) пацієнтів, 2 (28,6 %) пацієнти померли внаслідок сепсису та синдрому поліорганної недостатності. Середня тривалість перебування хворих у стаціонарі в групі стентування становила 15,4 дня (9—22 дні), у групі хірургічного лікування — 32,8 дня (19—40 днів). Летальність становила 16,7 і 28,6 % відповідно.

Висновки. Ендоскопічне стентування анастомозу із застосуванням металевих стентів, що саморозширюються (SEMS), у поєднанні з локальним дренуванням і ентеральним харчуванням є перспективним методом лікування неспроможності стравохідно-єюнальних анастомозів після тотальної гастректомії. Наше дослідження демонструє, що використання цього методу зменшує тривалість госпіталізації та рівень летальності порівняно з хірургічними методами. Ендоскопічне стентування забезпечує успішне закриття дефекту анастомозу при меншій частоті ускладнень порівняно з хірургічним втручанням. Однак хірургічне лікування залишається незамінним у випадках тяжкого сепсису або неефективності консервативних методів, незважаючи на високий ризик летального наслідку. Необхідно провести додаткові дослідження, що дасть змогу розробити стандартизовані підходи до вибору методу лікування залежно від розмірів дефекту та загального стану пацієнта.

Ключові слова: рак шлунка, тотальна гастректомія, неспроможність анастомозу, ендоскопічне стентування.

FOR CITATION

Dobrzhanskyi O, Kondratskyi Y, Kozak E, Kolesnyk A, Pepenin M, Shudrak Y, Horodetskyi A, Turchak V, Omelchak A, Koval N, Svichkar Y, Ukrainets I. Endoscopic stent placement in the management of esophagojejunal anastomosis leakage. General Surgery (Ukraine). 2024:(4);44-49. http://doi.org/10.30978/GS-2024-4-44.