The American Journal of Medical Sciences and Pharmaceutical Research (ISSN – 2689-1026)
VOLUME 05 ISSUE 07 Pages: 70-77
SJIF IMPACT FACTOR (2020: 5. 286) (2021: 5. 64) (2022: 6. 319) (2023: 7. 396)
OCLC – 1121105510
Publisher: The USA Journals

Journal Website: https://theamericanjournals.com/index.php/tajmspr

Research Article

CLINICAL EVALUATION OF A MODIFIED METHOD OF LOW MANUAL PROCESSING OF THE DUODENAL STUMP IN PALLIATIVE GASTIRECTOMY

Submission Date: July 20, 2023, **Accepted Date:** July 25, 2023,
Published Date: July 30, 2023 |
Crossref doi: https://doi.org/10.37547/TAJMSPR/Volume05Issue07-12

Juraev Mirzhalol Dekhkanovich
Republican Specialized Scientific and Practical Medical Center of Oncology and Radiology, Uzbekistan

Kuliev Aziz Abdumazhidovich
Samarkand State Medical University, Uzbekistan

ABSTRACT

Objective: To develop a method of low manual processing of the duodenum when the tumor of the stomach passes to the wall of the duodenum.

Material and methods: A retrospective analysis of the results of processing the duodenal stump was carried out in 46 patients with stage III-IV locally advanced gastric cancer who underwent standard and palliative gastrectomy for the period from 2012 to 2021 in the department of thoracoabdominal surgery, Samarkand branch of RSSPMCO and R. All patients underwent combined gastrectomy with planar resection and thermoelectrocoagulation of areas of growth of the stomach tumor into the head of the pancreas for gastric cancer with the transition to the duodenum. Depending on the method, the treatment of the stump is 12 p.k. the patients were divided into two groups. In the 1st group - 31 (67.39%) patients, the duodenal stump was sealed manually, and in the second group, 15 (32.60%) patients had the duodenal stump mechanically sealed using the UO-40 apparatus and due to partial The defect of the stump was additionally sutured manually.

Results: Our studies have shown that the incidence of duodenal stump suture failure in patients after gastrectomy with the tumor moving into the proximal part of the duodenum with the manual method was 6.4% (2 patients). With the combined method, stump failure was noted in 1 (6.6%) patient.

Conclusions: The proposed method of processing the duodenal stump is quite simple, hermetic, which can be recommended for a wide surgical practice.

KEYWORDS

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
VOLUME 05 ISSUE 07 Pages: 70-77
SJIF IMPACT FACTOR (2020: 5. 286) (2021: 5. 64) (2022: 6. 319) (2023: 7. 396)
OCLC – 1121105510
Publisher: The USA Journals

Duodenal stump sealing, palliative gastrectomy, gastric resection, thermoelectrocaugulation, sprouting, duodenal wall.

INTRODUCTION

Modern domestic and foreign clinical guidelines do not offer a single standardized approach for such complications as tumor bleeding and progressive tumor stenosis [3, 10]. These life-threatening conditions affect a very heterogeneous group of patients who have both locally advanced (tumor ingrowth into neighboring organs) and generalized form of gastric cancer. Surgical treatment remains the only method that can significantly improve the quality of life of these patients [9].

In the RUSSCO practice guidelines for the treatment of gastric cancer, surgical removal of the primary tumor in primary inoperable locally advanced gastric cancer can be performed with life-threatening complications of the tumor process that cannot be stopped conservatively - gastric perforation, rebleeding, tumor stenosis, etc. [3].

Despite the decrease in the number of gastric resections and gastrectomy performed for complicated forms, with the transition of the tumor process to the proximal part of the duodenum, the incidence of duodenal stump suture failure, unfortunately, has not practically decreased, which, in our opinion, is due to the following factors: 1) loss, even by experienced surgeons, of the skills of suturing the duodenal stump of performed gastrectomy and gastrectomy for complicated forms of cancer; 2) insufficient knowledge by the new generation of surgeons of reliable methods for suturing the stump in difficult situations due to local surgical anatomy; 3) loss of skills in the technique of performing gastric resection and gastrectomy, which inevitably led to an increase in the number of cases not only of failure of the duodenal stump sutures, but also the failure of the sutures of the gastrointestinal anastomosis, which, in turn, increased the number of cases of acute postoperative pancreatitis with mortality from 50 to 80% [1, 6]. These data indicate that after each resection of the stomach and gastrectomy, there is a threat of developing such severe and dangerous complications as failure of the sutures of the duodenal stump, less often - failure of the sutures of the gastrointestinal anastomosis and the development of acute postoperative pancreatitis. [4]. as the failure of the sutures of the duodenal stump, less often - the failure of the sutures of the gastrointestinal anastomosis and the development of acute postoperative pancreatitis. [4]. as the failure of the sutures of the duodenal stump, less often - the failure of the sutures of the gastrointestinal anastomosis and the development of acute postoperative pancreatitis. [4].

As for gastrectomy, its implementation is fraught with the risk of developing, first of all, insolvency of the sutures of the esophago-intestinal anastomosis and acute postoperative pancreatitis, very rarely – insolvency of the sutures of the duodenal stump [5]. All these complications, often in combination, cause a high percentage of postoperative mortality, which does not have a pronounced tendency to decrease. These data undoubtedly indicate the relevance of the ageless problem of ensuring the sealing of the duodenal stump, which dictates the need for further research.

An analysis of currently available literary sources shows that, despite the large number of methods for forming

The American Journal of Medical Sciences and Pharmaceutical Research (ISSN – 2689-1026)
VOLUME 05 ISSUE 07 Pages: 70-77
SJIF IMPACT FACTOR (2020: 5. 286) (2021: 5. 64) (2022: 6. 319) (2023: 7. 396)
OCLC – 1121105510
Publisher: The USA Journals

a hand stump proposed by the authors, this issue is still far from an absolute solution [7]

In the literature, there are more than 200 ways of processing the duodenal stump, which indicates the unresolved problem [8]. In case of gastric cancer with germination, the horizontal part is 12 p.k. and on the head of the pancreas, there are problems with suturing the duodenal stump in 21-70.4% of patients. At the same time, the frequency of failure of the duodenal stump sutures, according to the literature, is 0.18-5.26% after planned resections of the stomach and gastrectomy, and in urgent surgery of malignant tumors it increases 4-6 times, after resection of the stomach and gastrectomy due to tumor perforation it reaches 5.26-22.2%, with tumor bleeding - 10.7-41.9%. Mortality from insufficient sutures of the duodenal stump is 25-80%, and in surgery of acute complications it approaches 100% [2, 8]. When processing the duodenal stump, many surgeons prefer the so-called plastic methods, which include: 1) methods using the tissues of the duodenal stump itself with or without separation of the mucous membrane; 2) methods using tissues of other organs; 3) methods with sealing the infiltrate in the subpyloric variant of gastric resection for its exclusion. [7].

The purpose of the study is to develop a method of low manual processing of the duodenum when the tumor of the stomach passes to the wall of the duodenum.

Material and research methods.

A retrospective analysis of the results of processing the duodenal stump was carried out in 46 patients with locally advanced complicated gastric cancer stages III-IV who underwent standard and palliative gastrectomy for the period from 2012 to 2021 of the Department of Thoracoabdominal Surgery, Samarkand Branch of the Republican Specialized Scientific and Practical center of oncology and radiology. Among the operated men, there were 28 (60.86%), women - 18 (39.13%). The age of the patients ranged from 21 to 84 years, and the mean age was 59.7 years.

A complication in the form of prolonged bleeding from the primary focus was observed in 28 patients (60.8%), gastric stenosis with accompanying bleeding in 11 (23.91%), tumor perforation in 6 patients (13.0%) and in 9 (19.6%) cases of combined combined complications (table 1). In all patients, sprouting into other organs was noted: 22 cases - into the wall of the duodenum, 24 - into the head of the pancreas and with sprouting into the wall of the duodenum. Severe hemorrhage was diagnosed in 17 patients, with moderate hemorrhage - in 16 patients, mild hemorrhage - in 13 patients.

Table 1. The structure of combinations of combined complications in locally advanced gastric cancer.

The nature of the combination	Study group			
	Group I n=31		II group n=15	
	abs.	%	abs.	%
Bleeding + sprouting	7	22.5%	3	20%
Bleeding + sprouting + stenosis	10	32.2%	6	40%
Bleeding + perforation + germination	4	3.5%	2	13.3%
Germination+	9	8.3%	4	26.6%

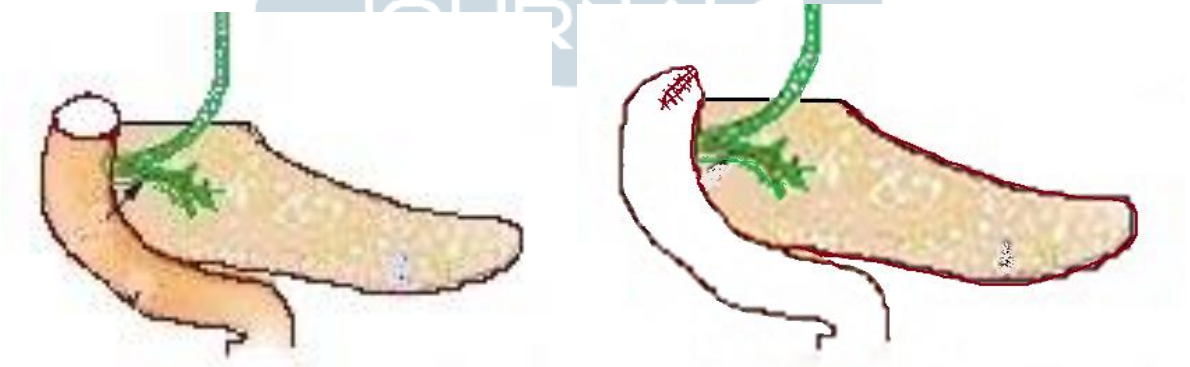
The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
VOLUME 05 ISSUE 07 Pages: 70-77
SJIF IMPACT FACTOR (2020: 5. 286) (2021: 5. 64) (2022: 6. 319) (2023: 7. 396)
OCLC – 1121105510
Publisher: The USA Journals

stenosis				
Perforation + stenosis	1	3.2%	-	-
TOTAL	31	100	15	100

In all patients, the processing of the duodenal stump due to low resection was carried out in conditions of a deficiency of duodenal wall tissues. An indication for the implementation of the duplication method for processing the duodenal stump is the transition of infiltration into the bulbar and subbulbar areas located >1 cm from the major duodenal papilla; contraindications - transition postbulbar infiltration, located at a distance of <1 cm from the major duodenal papilla.

In 31 (67.39%) patients, the duodenal stump was sealed manually, due to the lack of the possibility of using a stapler, and in 15 (32.6%) patients, the duodenal stump was hardly processed using the UO-40 apparatus, but in all cases due to the lack of the mobilized part of 12 p.k., a defect appeared along the line of seams of various diameters, which required the use of an additional manual processing method. In all cases, the mobilization of the duodenal stump was performed according to a modified technique withplanar resection of the capsule of the head of the pancreas and thermoelectrocaugulation.

The technique of execution is as follows: After separation of the mobilized distal part of the duodenum from the lower edge of the tumor, a clamp is applied to the pylorus and the stomach is folded up and to the left and resected through areas of healthy tissue 12 p.k. The exfoliated "mucous cylinder" of the open stump of the intestine is sutured with separate continuous sutures (Fig. 2), while the formed suture line should be oriented perpendicular to the subsequent suture lines of the serous-muscular. Above this purse-string suture with an interval of approximately 0.7 cm, an additional 1 additional purse-string suture is sequentially applied, mainly due to the muscle layer (Fig. 3). The initial part of the duodenal stump is sutured with a continuous suture with immersion of the upper and lower corners in semi-purse-string sutures (Fig. 3) and additional application of interrupted or Z-shaped sutures in its middle third,



2.

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
VOLUME 05 ISSUE 07 Pages: 70-77
SJIF IMPACT FACTOR (2020: 5. 286) (2021: 5. 64) (2022: 6. 319) (2023: 7. 396)
OCLC – 1121105510
Publisher: The USA Journals

3. 4.

Scheme of the operation: Method of low manual processing of the duodenal stump during palliative gastrectomy

Clinical example: Patient: B.G., 1968. Case history no: 8372/21706

COMPLAINTS: pain and heaviness in the epigastric region after eating, nausea, vomiting, weight loss (up to 30 kg), black stools, general weakness and malaise.

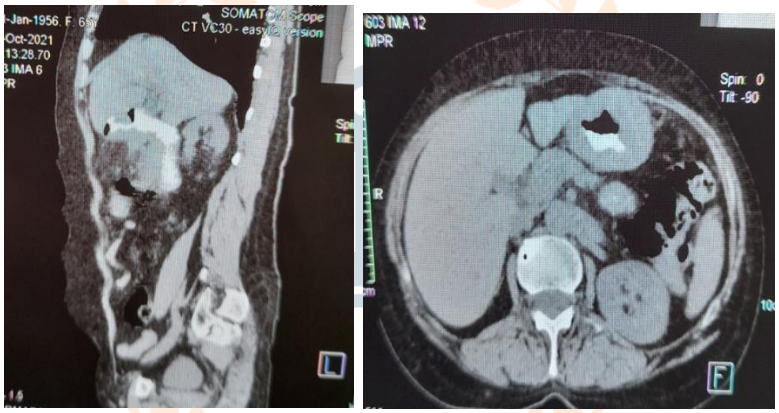
ANAMNESIS MORBI: Considers himself ill for 7 months. The patient underwent conservative treatment, while pain in the epigastric region continued to disturb. An examination by an oncologist was recommended due to the ineffectiveness of conservative treatment. After a complete examination in the oncological scientific and practical center, the patient was diagnosed with cancer of the antrum and body of the stomach pT4bN1M0, with germination in the duodenum and head of the pancreas. IIIb Art. II class. gr. Complication: Bleeding (periodic). Decompensated duodenostenosis. Concomitant diseases: ischemic heart disease, atherosclerotic cardiosclerosis.

RESEARCH METHODS

EGDFS with biopsy. Histological conclusion No. 0158B: Adenocarcinoma G1.

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
VOLUME 05 ISSUE 07 Pages: 70-77
SJIF IMPACT FACTOR (2020: 5. 286) (2021: 5. 64) (2022: 6. 319) (2023: 7. 396)
OCLC – 1121105510
Publisher: The USA Journals

Contrast R-graphy of the stomach.



MSCT of the abdominal cavity (gastric contrast)

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
VOLUME 05 ISSUE 07 Pages: 70-77
SJIF IMPACT FACTOR (2020: 5. 286) (2021: 5. 64) (2022: 6. 319) (2023: 7. 396)
OCLC – 1121105510
Publisher: The USA Journals

Operation: Palliative gastrectomy with low manual debridement of the duodenal stump.

RESEARCH RESULTS

Our studies have shown that sealing the duodenal stump during gastrectomy with a low-lying tumor passing to the duodenum is one of the most critical stages of the operation.

Of 31 (67.39%) patients, the duodenal stump was sealed manually. The failure of the stump was noted in 2 (6.4%) patients, one patient aged 60 years who underwent combined gastrectomy, planar resection and thermoelectrocoagulation of areas of growth of the stomach tumor into the head of the pancreas due to gastric cancer. The reason for the failure of the duodenal stump was acute postoperative pancreonecrosis, which caused necrosis of the tissue structures of the intestine in the area of sutures, which caused the outflow of duodenal contents through the drainage channel on the 10th day after surgery in a volume of 160-300 ml per day. The patient died on the 18th day after surgery from widespread fibrinous-purulent peritonitis due to postoperative pancreatic necrosis and multiple interintestinal abscesses. The second patient condition after distal subtotal resection, with planar resection of the head of the pancreas with low processing 12 p. on the 14th day after the operation, a duodenal fistula appeared. The fistulous tract closed spontaneously 2 months after the operation.

Of the 15 (32.60%) patients who underwent gastrectomy, in which the duodenal stump was sealed in a combined way (mechanical sutures + manual processing), suture failure was noted in one case (6.66%), which required relaparotomy with sanitation and drainage abdominal cavity. The fistula did not close on its own for 7 months. Our studies have shown that the incidence of failure of the duodenal stump in patients after gastrectomy with and distal subtotal resection with low-lying tumors averaged 6.5%. The difference in the average values of the incidence of failure of the sutures of the duodenal stump in two conjugated groups of patients is statistically insignificant ($p > 0.05$).

CONCLUSION

One of the important conditions for ensuring the sealing of the duodenal stump, especially the suprappyloric stump, is the prevention of stump ischemia by maintaining blood flow through the main vessels. In addition, during the formation of the epipyloric stump, the formation of cavities closed in the tissues to be sutured should be avoided, in which conditions are created for the formation of exudate with subsequent infection and the formation of an infiltrate or abscess. Each performed resection of the stomach and gastrectomy, especially with atypical treatment of the duodenal stump, should be completed with a wide drainage of the subhepatic space, and, if necessary, the subdiaphragmatic space.

When performing epipyloric resection "to switch off" in case of complicated locally advanced tumor infiltration of the stomach into the walls of the duodenum, the best option for sealing the stump is our improved modification method, which provides reliable sealing of the stump against the background of complete preservation of the main and intramural blood flows due to the formation of a 2-3-layer a scaffold capable of containing refluxes of duodenal contents.

The proposed method of processing the duodenal stump has sufficient preventive properties in relation to the insolvency of its sutures, at most eliminates the

The American Journal of Medical Sciences and Pharmaceutical Research (ISSN – 2689-1026)
VOLUME 05 ISSUE 07 Pages: 70-77
SJIF IMPACT FACTOR (2020: 5. 286) (2021: 5. 64) (2022: 6. 319) (2023: 7. 396)
OCLC – 1121105510
Publisher: The USA Journals

possibility of insolvency and can be recommended for wide surgical practice.

REFERENCES

1. Ajani JA et al. Gastric cancer, version 5.2017, NCCN clinical practice guidelines in oncology. Journal of the National Comprehensive Cancer Network. 2017.
2. Cunningham D. et al. Perioperative chemotherapy versus surgery alone for resectable gastroesophageal cancer. N Engl J Med. 2016; 355(1):11-20.
3. Djuraev MD, Rakhimov NM, Karimova MN, Shakhanova Sh.Sh. Current Views On The Pathogenesis Of The Parietal-Visceral Pathway Of Gastric Cancer Metastasis. The American Journal of Medical Sciences and Pharmaceutical Research Volume 3, No. 03, 2021, Pages 94-103.
4. Abdulkhakimov N.M. Endovideosurgical treatment of patients with advanced forms of gastric cancer complicated by tumor stenosis and bleeding. Thesis. Oncology 2020. 17.
5. Afanasiev S.G., Avgustinovich A.V., Tuzikov S.A. and co-authors. Results of combined operations in locally advanced gastric cancer. Oncology. Journal them. P.A. Herzen. 2013; 2:12-15.
6. N. S. Besova, M. Yu. Byakhov, M. M. Konstantinova, et al. Practical recommendations for the drug treatment of gastric cancer // Malignant tumors: Practical recommendations RUSSCO #3s2, 2018 (volume 8). pp. 273–288.
7. N. S. Besova, M. Yu. Byakhov, M. M. Konstantinova, et al. Practical recommendations for the drug treatment of gastric cancer // Malignant tumors: Practical recommendations RUSSCO #3s2, 2018 (volume 8). pp. 273–288.
8. Volkov V.E., Volkov S.V. Clinical evaluation of some methods of sealing the duodenal stump in case of epipyloric resection of the stomach and gastrectomy /// Clinical and preventive medical journal - 2018.
9. Volkov V.E., Volkov S.V. Dangerous postoperative complications in surgery. Cheboksary: Chuvash Publishing House. un-ta, 2012. 550 p.
10. Nikitin V.N. et al. "Difficult" stump with complicated giant duodenal ulcers. // News of Surgery Vol. 25 No. 6. 2017.