

IMMEDIATE AND LONG-TERM RESULTS OF SURGICAL TREATMENT FOR PERFORATED GASTRODUODENAL ULCER

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Abstract. *The authors describe the methods of surgical treatment, of the patients with perforated gastric and duodenal ulcer. The role of separate techniques in diagnosis of perforated ulcer is shown. The data serving as the basis for the development individual surgical tactics in the patients with perforated ulcer are reported. Basing on the long-term results of surgical treatment of the patients with perforated gastric and duodenal ulcer, practical recommendations about the treatment of this group of patients based on the modern ideas about the etiology and pathogenesis of ulcer are given.*

Key words: *ulcer, perforation, suturing, resection, organ-preserving operations.*

In spite of the progress in diagnosis and treatment of perforated gastroduodenal ulcers, the problem of choice of the surgical technique remains disputable. The interventions used in urgent surgery do not satisfy the specialists as the former do not correspond to the contemporary demands of ulcer pathogenesis. The death rate in perforated duodenal ulcer is about 7% [1-4], while post-resection and post-vagotomy disorders are in 10 - 30% [5-8] and 10 - 15% [5,8-10] of cases respectively, that can cause a stable invalidism in these patients.

We have the data about the results of treatment of 725 patients with perforated gastric and duodenal ulcer. The distribution of the patients with gastroduodenal ulcer according to the age and sex is shown in Table 1.

It is evident from the table that the majority of the patients, 387 (53.4%) are 15 - 40 years old. The analysis of the patients with perforated gastroduodenal ulcer has demonstrated that in 208 persons (28.7%) the perforation occurred without definite signs of the disease, in 82 cases (11.3%) the disease manifested itself with

the signs of dyspepsia. The above must aim both the ambulance physician and the surgeon at thorough individual assessment of such patients.

When choosing the technique of the operation, we kept principal position. The time elapsed from the moment of the perforation to the admission, the presence and the character of peritonitis, the age of the patients and the accompanying pathology of the vital systems, the localization and the character of the ulcer; the findings of pH study of the stomach and the stomach secretion, the presence of the duodenal bulb deformity and other complications (stenosis, penetration) were taken into account.

The distribution of the patients with perforated gastroduodenal ulcer depending on the period from the moment of perforation to admission to the hospital is shown in Fig. As it is seen in the picture, 311 (42.9%) patients were admitted to the surgical department during the first two hours, 263 (36.3%) within 6 hours, 74 (10.2%) within 12 hours, 35 (4.8%) within 24 hours, 42 (5.8%) more than 24 hours.

The ulcer was localized in the stomach in 108 (14.9%) cases, in the duodenum in 617 (85.1%) patients. Of them, in 102 (14.7%) cases the ulcer was localized in a mirror-like manner both on the anterior and posterior walls. Spot-film radiography of the abdominal organs was used for diagnosis. Free air was revealed in 455 (62.8%) patients. When free air was absent (270 cases, 37.2%), pneumogastrography (83 cases), fibroesophagogastroscopy (123 cases) were performed. In doubtful cases the patients were performed laparoscopy, ultrasound study, CT (8 cases). All the patients underwent urgent surgery, in 6 the operation was put off for 8 - 5 days, which was connected with the atypical cause of the disease. Such patients were treated as those with acute cholecystitis and acute pancreatitis until the correct diagnosis was made.

The characteristic of the operative technique in the patients with gastroduodenal ulcer is given in Table 2.

The table demonstrates that suturing according to Ostrovskv or Ooppel-Polikarpov was done in 11 cases (15.3%). The indications to this kind of surgery were diffuse or generalized purulent peritonitis and complicated history. In this

group, 8 patients (7.2%) died, the cause of death was peritonitis progress, cardiopulmonary insufficiency and pulmonary embolism.

After the suturing of the perforation, great attention was paid to the measures preventing aggression by the acid stomach content using H₂-blockers and inhibitors of proton pump as well as to administration of antibacterial therapy aimed at elimination of *Helicobacter pylori* and normalization of lymph microcirculation in the zone of the damage.

As it is seen from Table 2, primary resection was performed in 40 patients (5.5%). It was done when the ulcer was located in the stomach, in repeated perforation, scar stenosis of the exit from the stomach as well as when malignancy was suspected. In this group, 3 patients died. The cause of death was inadequate evaluation of the accompanying diseases of the vital systems.

As our data demonstrate, when ulcer is localized in the duodenum, organ-preserving operations with one of the types of vagotomy are performed at present (574 patients, 79.2%). The purpose of this operation is to inhibit peptic factor which is determined with intragastric pH study before and during the operation. Selective proximal vagotomy (SPV) was done in 283 cases (38.5%), of them, in 96 (113.2%) it was accompanied by ulcer excision, in 187 (25.8%) by pyloroplasty. The excision was done in case of small infiltration around the ulcer. The indications to pyloroplasty included callous ulcer, scar deformity of the duodenal bulb as well as combination of mirror-like ulcers when the danger of pylorostenosis was present. Trunkal vagotomy (TV) was performed in 53 patients (7.3%), of them in 16 (2.2%) it was combined with ulcer excision, in 37 (5.1%) with pyloroplasty. TV was used when perforation was accompanied by hemorrhage in the patients with complicated history.

Selective vagotomy (SV) was done in 238 cases (32.9%), of them, in 55 cases (7.6%) if was combined with ulcer excision, in 183 (25.3%) with pyloroplasty. The indications to SV were the cases when Letarge's nerve verification was difficult due to infiltration of the small omentum. In this group 2 patients died: one of acute myocardial infarction, the other of early commissural ileus.

The long-term results of the surgical treatment of the patients with perforated gastric and duodenal ulcer were evaluated in 70 patients (9%) within the period of 2-5 years after the surgery at the in-patient department (Table 3). In addition to radioscopy, all the patients underwent fibrogastroscopy. Besides, the acidity was assessed, the degree of the disease development and that of Hp infection were determined.

Table 1

Distribution of the patients with gastroduodenal ulcer according to sex and age

age (years) / sex	15-30	31-40	41-50	51-60	over 60	Total
Male	191	174.	126	91	64	631
Female	10	12	16	18	23	94
Total	201	186	142	109	87	725
	27.7	25.7	19.4	15.1	12.1	100.0

Table 2

The character of surgical intervention in the patients with perforated gastroduodenal ulcer

Type of surgery	Number of patie	%
Suture according' to Ostrovsky	102	14.1
Suture according to Oppel-Polikarpov	9	1.2
Primary stomach resection	40	5.5
Exc ision of ulcer+trunkal vagotomy	16	2.2
Excision of ulcer+selective vagotomy	55	7.6
Excision of ulcer+ selective proximal vagotomy	96	13.2
Excision of ulcer with pyloroplasty+ trunkal vagotomy	37	5.1
Excision of ulcer with pyloroplasty+ selective vagotomy	183	25.3
Excision of ulcer with pyloroplasty + selective proximal vagotomy	187	25.8
TOTAL	725	100.0
Fundoplication according to Nissen	32	

All the patients were divided into three groups. The first group consisted of 15 patients (21.4%) who had been performed stomach resection. The second group included 35 persons (50.0%) who had undergone a certain type of vagotomy with the ulcer excision and pyloroplasty. The third group consisted of 20 patients (28.6%) who had been done suturing of the perforation.

Table 3

Long-term results of surgical treatment of perforated gastric and duodenal ulcer

Result	Group 1 (stomach resection)		Group 2 (ulcer excision+ vagotomy)		Group 3 (ulcer- suturing)	
	N	%	N	%	N	%
Excellent.	4	26.7	27	77.2	5	25.0
Good	6	40.0	6	17.2	8	40.0
Satisfactory	3	20.0	1	2.8	4	20.0
Bad	2	13.3	1	2.8	3	15.0
TOTAL	15	100.0	35	100.0	20	100.0

Analysis of the long-term results has demonstrated that in two patients from group 1, the outcome was poor due to stage 2-3 dumping syndrome (according to Nikolaev). In group 2, bad and satisfactory results were observed in two patients in whom light and medium diarrhea was noted. But these patients are capable of working and the complaints subsided after rehabilitation therapy. In group 3, unsatisfactory results were obtained in three patients. They were connected with ulcer relapses in two patients and decompensated stenosis of the pylorus in one patient. They underwent repeated operation and were performed stomach resection according to Bilrot-I.

Nevertheless the results in 4 patients of this were satisfactory, the patients had complaints on periodic pains in the epigastrium, eructation and heartburn. After the examination, the diagnosis of gastritis was made. These patients were referred under observation to the gastroenterologist.

Conclusions: Taking into consideration the recent achievements of gastroenterology, stomach resection and organ preserving surgery should be made under individual indications. In most cases the traditional suturing of a perforation followed by rehabilitation therapy with antisecretory therapy and Helicobacter eradication should be preferred.

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