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DIFFERENTIATED SURGICAL REHABILITATION AND QUALITY OF LIFE OF PATIENTS WITH INTESTINAL STOMA

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ABSTRACT

The article describes in detail the history of the development of surgical proctology, from the time of the appearance of colostomy, the imposition of anastomoses, the stages of the surgery of fatigued patients. Methods and results of rehabilitation of fatigued patients, principles of imposition and closure of single-double colostomy, treatment of post-operative complications. The impact of a surgical treatment method on social adaptation and quality of life of patients.

Key words: rehabilitation, surgery, proctology, colostomy, social adaptation, quality of life.

INTRODUCTION

At the present stage of the development of medicine, new treatment methods appear among scientific proctologists and surgical techniques for applying anastomoses appear constantly: completely new types of stitching devices are invented more reliable, and safe suture material including for laparoscopic operations, despite this, manual formation techniques are practiced among surgeons, anastomosis in surgical practice is still significant [1,2,3,4,5,6,7,16,18].

Currently, in order to eliminate postoperative complications and to protect intestinal anastomoses, the most preferable is to perform preventive ostomy in emergency cases, especially necessary after performing a low or ultra-low resection of the rectum [1,2,5,6,7,11,12,13,14,15].

Among modern surgeons, there are two known methods that constantly compete with each other: manual techniques for performing colorectal anastomoses and applying them using devices [6,7,16,18]. In proctology, colorectal surgeons must be familiar with both methods of anastomosis, since an individual approach to each patient is always required [6,7,16,18].

An analysis of the world literature proves that the fewer complications after surgical treatment of patients, the less their quality of life suffers. A differentiated approach to choosing a method of surgical intervention, optimizing rehabilitation methods, finding new, more modern methods of treating intestinal obstruction, and improving colostomy methods are real ways to reduce the incidence of post-colostomy complications and improve the results of surgical treatment and the quality of life of patients [1,2,5,6,7,11,12,13,14,15].

Quality of life reflects the impact of the disease and treatment on the patient's well-being and characterizes his physical, emotional and social well-being, which changes under the influence of the disease or its treatment [3,4,8,9,10,17,19,20].

The goal is to improve the results of surgical rehabilitation by optimizing the methods of reconstructive operations and studying the dynamics of the quality of life of patients with intestinal stoma.

Material and methods

The results of observations of 397 patients with intestinal stoma for the period 2012-2019, who were hospitalized at the Republican Clinical Hospital No. 1 of the Republic of Uzbekistan, currently a multidisciplinary clinic of the center for the development of professional qualifications of medical workers, were analyzed.

All patients were examined according to a standard scheme, including data from a clinical examination by specialists and instrumental research methods: ECG; Ultrasound; fluoroscopy; esophagogastroduodenoscopy; fibrocolonoscopy; sigmoidoscopy; digital sphincterometry; proctography; irrigography; colonoscopy; diagnostic laparoscopy; Pouch graphics as needed.

To exclude abdominal tumors and identify other pathologies, magnetic resonance imaging (MRI) was used, if necessary, multispiral computed tomography (MSCT) with contrast and other necessary instrumental research methods. Positron emission tomography (PET) has been used in rare cases to determine metastases of abdominal tumors to other organs of the body.

To assess the quality of life, the following questionnaires were used: the European Quality of Life Questionnaire EuroQol-5D and a visual analogue scale (VAS) to determine the intensity of pain, which underwent a standard validation procedure. After the diagnosis was established, all patients were subjected to

surgical intervention - colostomies, various anastomoses and other reconstructive surgical methods.

Results and discussions

A total of 397 patients with intestinal stoma were studied for the period 2012-2019, who were hospitalized at the Republican Clinical Hospital No. 1 of the Republic of Uzbekistan, currently a multidisciplinary clinic of the center for the development of professional qualifications of medical workers.

Patients were classified by age according to the WHO classification. An analysis of the age aspect showed that, with the majority of subjects being of young age (18–44 years; 74%), male patients were predominantly women by 10% (Table 1).

Table 1

Distribution of patients by gender and age (n=397)

Age	Gender				Number of patients	
	Men		Woman			
	abs.	%	abs.	%	abs.	%
18-44*	160	54,79	132	45,21	292	73,55
45-59	47	60,26	31	39,74	78	19,65
60-74	14	56,00	11	44,00	25	6,30
75-90	2	100,00	0	0,00	2	0,50
Всего	223	56,17	174	43,83	397	100,00
Note: * 16 years old - 2 males. and 1 female, 17 years old - 1 male. Patients over 90 years of age were not observed in our study.						

Patients aged 18-44 years were observed 73%, 55% of men and 45% of women, this is due to lifestyle and other factors leading to intestinal dysfunction. The analysis of the observation showed that, the disease of patients comes mainly at the working age of 18-59 years about 93% which makes the problem very urgent.

All 397 patients were divided into 3 groups according to the severity of the disease. The first group included 131 (33%) recovered patients who had undergone colostomy, anastomosis and other various types of surgery, their condition was assessed as a milder degree. The second group included 133 (33.5%) patients who had undergone various types of surgery early, their condition was assessed as moderate severity. The third group included 133 (33.5%) patients whose condition was assessed as severe, had repeatedly undergone various surgical interventions and continuing to be ill.

In our study, in 397 patients, the reasons for ostomy placement were as follows: nonspecific ulcerative colitis 140 (35.3%), intestinal bleeding for various

reasons 98 (24.7%), intestinal stricture 30 (7.6%), purulent-inflammatory diseases. intestines and peritonitis 19 (4.8%), ulcerative proctitis 19 (4.8%), abdominal pain syndrome 15 (3.8%), adhesive intestinal disease 14 (3.5%), colon diverticulosis 12 (3 %), Crohn's disease 11 (2.5%), ulcerative proctitis 10 (2.5%), volvulus 9 (2.3%), Hirschsprung's disease 5 (1.3%), abdominal trauma 3, duodenal ulcer intestines with perforation 3 and intestinal amebiasis 2 cases, depending on the cause, various stomas or surgical methods were used (Table 2).

Table 2

Nosologically forms of diseases for which ileostomy or colostomy were performed (n= 397)

№	Nosologically form	Quantity	%
1	Nonspecific ulcerative colitis	140	35.3
2	Amebiasis of the colon	2	0.5
3	Volvulus of the sigmoid colon	9	2.3
4	Abdominal injury	3	0.8
5	Diverticulosis of the colon	12	3.0
6	Crohn's disease	11	2.8
7	Diffuse polyposis of the colon	3	0.8
8	Hirschsprung's disease	5	1.3
9	Intestinal bleeding	98	24.7
10	Intestinal stricture	30	7.6
11	Ulcerative proctitis	10	2.5
12	Peritonitis, purulent-inflammatory diseases	19	4.8
13	Duodenal ulcer	3	0.8
14	Intestinal obstruction	19	4.8
15	Adhesive bowel disease	14	3.5
16	Abdominal pain syndrome	15	3.8
17	Uterine fibroids	4	1.0
Total:		397	100%

All 397 patients underwent various surgical interventions depending on the location and origin of the intestinal pathology, with a total of 500 interventions performed, this is explained by the fact that some patients underwent several operations at once (Table 3).

Table 3

Methods of primary surgical interventions (n=397).

№	Methods of operations	Quantity	%
1	Ileo- or colostomy	243	48.6
2	Ascendostomy	2	0.4
3	Descendostomy	26	5.2
4	Ileostomy	177	35.4
5	Colostomy	8	1.6
6	Hartmann operation	3	0.6
7	Sigmostomy	23	4.6
8	Transversostomy	14	2.8
9	Cecostomy	4	0.8
Total:		500	100%

Analysis of the data obtained from 397 patients according to the types of treatment carried out showed the following results: Patients in the first group received the highest number of anastomoses: 78 (60%); in the second group, 35 (27%); 8 (6%); reconstructive operations: 6 (5%); conservative treatment: 4 (3%). In this group of patients, the application of anastomoses is the preferred method of choosing surgery that allows for early recovery (table 4).

Table 4

Indicators of types of treatment for patients of the first group (n=131)

№	Types of treatment	Number abs.	%
1.	Single-barrel stoma placement	8	6,1
2.	Double-barreled stoma	35	26,7
3.	Overlay anastomosis	78	59,5
4.	Reconstructive surgeries	6	4,6
5.	Conservative treatment	4	3,1
Total:		131	100

Patients in the second group received the most surgeries: double stoma closure 35 (26%); second anastomosis 28 (21%); monosomy closing 15 (11%); reconstructive surgery 15 (11%); conservative treatment 40 (30%). In this group of patients, the imposition of anastomoses compared to the first group is three times

less, but remains the method of choice of surgical treatment. Many patients (30%) in this group received conservative treatment and rehabilitation therapy (Table 5).

Table 5

Indicators of types of treatment for patients of the second group (n=133)

№	Types of treatment	Number abs.	%
1.	Closure of a single stoma	15	11,3
2.	Closing a double-barreled stoma	35	26,3
3.	Overlay anastomosis	28	21,1
4.	Reconstructive surgeries	15	11,3
5.	Conservative treatment	40	30,1
Total:		133	100

Patients in the third group had the highest number of surgeries: double stoma closure 38 (29%); closure of single stoma 26 (19%); imposition of anastomosis 24 (18%); reconstructive surgery 15 (11%); conservative treatment 30 (23%). In this group of patients, anastomosis was less frequently performed than in the first and second groups, but it remains the method of choice for surgical treatment. Conservative treatment was given to 22% of patients in this group, continuing to be ill and receiving rehabilitation therapy. (Table 6).

Table 6

Indicators of types of treatment for patients in the third group (n=133)

№	Types of treatment	Number abs.	%
1.	Single-barrel stoma placement	26	19,5
2.	Double-barreled stoma	38	28,6
3.	Overlay anastomosis	24	18,0
4.	Reconstructive surgeries	15	11,3
5.	Conservative treatment	30	22,6
Total:		133	100

Of the 397 patients, 74 (18%) received conservative treatment. In the first group 4 (3%) after surgery, additional conservative treatment was performed, signs of intestinal obstruction were resolved and no additional surgery was required, in the second group 40 (30%) patients who had previously undergone surgery after a

conservative therapy, the symptoms of Dynamic Intestinal Obstruction had been resolved, and no surgery was needed, and in the third group 30 (23%) in the history of repeated surgical interventions during conservative treatments, signees of dynamic intestinal obstruction had been solved (Table 7).

Table 7

Patients who received conservative treatment (n=397)

Groups	Number of patients	%	Number abs.	%	Percentage of the total number of patients in the group, %
1	131	33,0	4	5,4	3,1
2	133	33,5	40	54,1	30,1
3	133	33,5	30	40,5	22,6
Total:	397	100	74	100	18,6

A comparative analysis of the surgical treatment of 397 patients showed the following results. The preferred method of surgical treatment is the application of anastomoses 130 (40%) in all examined groups, the ratio to the total number of patients 33%, the second place is the imposition and closure of bipolar stoma 108 (33%) out of the total of 27%, the impositions and closures of single stoma 49 (15%) out of a total of 12% and reconstructive operations 36 (11%), out of 9%, it will be as follows (Table 8).

Table 8

Indicators of patients after surgical treatment (n=397)

Operation name		Groups						Total in groups		Total n=397
		Group1		Group 2		Group 3				
		n	%	n	%	n	%	n	%	%
1	Closure of a single stoma	8	6,3	15	16,1	26	25,2	49	15,2	12,3
2	Closure a double-barreled stoma	35	27,6	35	37,6	38	36,9	108	33,4	27,2
3	Overlay anastomosis	78	61,4	28	30,1	24	23,3	130	40,2	32,7
4	Reconstructive surgery	6	4,7	15	16,1	15	14,6	36	11,1	9,1
Total:		127	100	93	100	103	100	323	100	81,4

In our study, the timing of reconstructive operations was developed taking into account the disease for which the stoma was performed, the volume of surgical intervention performed and the general condition of the patient; abdominal trauma - 2.5-4 months, ulcerative-inflammatory diseases - 8-10 months.

A comparative treatment analysis of 397 patients showed the following results. The predominant method of surgical treatment is the application of anastomoses 130 (40%) in all examined groups, the ratio to the total number of patients 33%, in the second place the application and closure of bipolar stoma 108 (33%) out of the total 27%, the imposition and closing of single stoma 49 (15%) out of all 12% and reconstructive surgeries 36 (11%) from the total 9%, the conservative treatment was carried out in the first group 4 (3%), the second group 40 (30%), the third group 30 (23%), that is, 74 (19%) to patients from all studied (table 9).

Table 9

General indicators of treatment of patient groups (n=397)

Group 1 n=131				**Group 2 n=133**		**Group 3 n=133**		**Total:**	
Name of treatment	**n**	**%**	**Name of treatment**	**n**	**%**	**n**	**%**	**n**	**%**
Overlays Single-barreled stoma	8	6,1	Closing single-barrel stoma	15	11,3	26	19,5	49	12,3
Overlays double-barreled stoma	35	26,7	Closing double-barreled stoma	35	26,3	38	28,6	108	27,2
Overlays anastomosis	78	59,5	Overlays anastomosis	28	21,1	24	18,0	130	32,7
Reconstructive operation	6	4,6	Reconstructive operation	15	11,3	15	11,3	36	9,1
Conservative treatment	4	3,1	Conservative treatment	40	30,1	30	22,6	74	18,6
Total:	131	100	Total:	133	100	133	100	397	100

The type of anastomosis formed largely depends on the topographic-anatomical relationships that currently exist in the abdominal cavity. To select a rational method of operation, the type of ileum or colostomy formed, the volume

of resection performed, and the length of the proximal and distal parts of the intestinal tube to the stoma are also of no small importance.

The quality of life, study of 397 patients was achieved using the European Quality of Life questionnaire EuroQol-5D and the visual-analogous scale (VAS) to determine the intensity of pain syndrome, having undergone the standard validation procedure.

Analysis of the results of the quality of life, study (QL) of 397 patients showed that the data received in all three groups were different, the deterioration of the QL indicators of the first group did not differ greatly from the normal, in the second group it was found that the patients' PC indicators deteriorated moderately, and in the third group this QL indicator of the patients significantly worsened and slowly recovered.

The most deteriorating parameters of the Euro Qol-5D questionnaire were pain/discomfort and anxiety/depression. QL studies of patients in all groups were conducted before and after surgical treatment (Table 10-11).

Table 10

Indicators of the Euro Qul-5D questionnaire before treatment (n=397)

Groups	Number of patients	M (mobility)	S (Self-service)	BA (Household activity)	P/D (Pain/Discomfort)	A/D (Anxiety/Depression)	EQ health score
1	131	1	1	0,39658	0,123	0,08611	0,66271
2	133	1	1	0,3404	0,123	0,08465	0,6645
3	133	1	1	0,34767	0,123	0,08727	0,65795
Total:	397	1	1	0,36138	0,123	0,08601	0,661705

Pain/discomfort and anxiety/depression descriptors were largely abnormal in the second and third groups and slowly recovered, with QL rates returning to normal in the first group immediately after surgical treatment.

Table 11

Indicators of the Euro Qul-5D questionnaire after treatment (n=397)

Groups	Number of patients	M (mobility)	S (Self-service)	BA (Household activity)	P/D (Pain/Discomfort)	A/D (Anxiety/Depression)	EQ health score
1	131	1	1	0,38922	0,4979	0,95208	-0,57638
2	133	1	1	0,3259	0,5244	1,025	-0,6124
3	133	1	1	0,3501	0,3727	0,9483	-0,4421
Total:	397	1	1	0,354912	0,464848	0,975237	-0,54345

A study of 397 patients showed that the most affected parameters of QL pain/discomfort and anxiety/depression contributed to this was the emotional state of the patients.

Pain syndrome as a strong stimulus primarily acts on the emotional state of patients being a provocative factor for the deterioration of QL patients.

To fully evaluate the quality of life of patients, two or more questionnaires covering the most disturbed descriptors and indicators are required. To study the parameters of pain syndrome we used the scale (VAS) for the completeness of the study used its modified form.

The indicators of VAS prior to surgical treatment revealed in the first group light pain (1-3 points) in 113 (86%), moderate pain (4-6 points) for 18 (14%), in the second group mild pain in 51 (38%), moderated in 80 (60%), very severe pain (7-9 points) at one patient, unbearable pain (10 points) on a patient, in the third group slight pain in 15 (11%), moderate in 96 (72%), very strong 184% (14%), intolerable pain in 3 (2%) patients (table 12).

Table 12

VAS scale indicators before treatment (n=397)

Groups	**Number of patients**	1-no pain (0)	2-mild pain (1-3)	3-moderate pain (4-6)	4-very severe pain (7-9)	5-unbearable pain (10)
1	131	0	113	18	0	0
2	133	0	51	80	1	1
3	133	0	15	96	18	3
Total:	397	0	179	194	19	4

After surgical treatment in all three groups, the pain syndrome regressed to disappear, and only one patient in the second group and four patients in the third group sustained mild pain, which proves the effectiveness of the treatment. The modified version of VAS and its five parameters allow for more detailed examination of pain syndrome, absence of pain (0 points), weak pain (1-3 points), moderate pain (4-6 points), very severe pain (7-9 points), intolerable pain (10 points) which means the maximum possible sensation of the pain syndrome. The postoperative parameters of pain sensation in patients are given in the following table (Table 13).

Table 13

VAS scale indicators after treatment (n=397)

Group	**Number of patients**	1-no pain (0)	2-mild pain (1-3)	3-moderate pain (4-6)	4-very severe pain (7-9)	5-unbearable pain (10)
1	131	131	0	0	0	0
2	133	132	1	0	0	0
3	133	129	4	0	0	0
Total:	397	392	5	0	0	0

The modified version of the VAS and its five parameters allow a more detailed examination of pain syndrome, no pain (0 points), mild pain (1-3 points), moderate pain (4-6 points), very severe pain (7-9 points), unbearable pain (10 points) which means the maximum possible sensation of pain.

Conclusions

1. Analysis of observation showed that the disease of patients occurs mainly at the working age of 18-59 years, about 93%, which makes the problem very relevant.

2. The predominant method of surgical treatment is the application of anastomoses 130 (40%) in all study groups, the ratio to the total number of patients is 33%, in second place is the application and closure of a double-barreled stoma 108 (33%) out of a total of 27%.

3. A study of 397 patients showed that the quality of life, parameters suffered most were pain/discomfort and anxiety/depression; this was facilitated by the emotional state of the patients.

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