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## Tactics of Surgical Treatment for Rectal Prolapse

A.E. Rustamov

*Tashkent Medical Academy, Tashkent, 100109, Uzbekistan, abdosamat.rustamov@gmail.com*

B.S. Navruzov

*Tashkent Medical Academy, Tashkent, 100109, Uzbekistan, behzod.navruzov@gmail.com*

E.X. Egamberdieva

*Tashkent Medical Academy, Tashkent, 100109, Uzbekistan, babadjan.md@gmail.com*

A.B. Babajonov

*Tashkent Medical Academy, Tashkent, 100109, Uzbekistan, dr.ahmad@mail.ru*

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## Tactics of Surgical Treatment for Rectal Prolapse

Rustamov A.E., Navruzov B.S., Egamberdieva E.X., Babajonov A.B., Eshmurodova D.B.,  
Eshmurodov Sh.A.

*Tashkent Medical Academy*

### Article info

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### ABSTRACT

*Objective:* To study the results of surgical treatment of the patients with rectal prolapse.

*Materials and methods.* During the period from 2003 until 2018, at the Coloproctology department of 1 st Clinical hospital of the Ministry of health of the Republic of Uzbekistan 426 patients was operated with the diagnosis of rectal prolapse, the average age of the patients was 45,2±3,8 y.o.

*Analysis of the results of treatment revealed the absence of postoperative mortality. Relapse was observed in 4 (0.94%) cases, however, the number of patients with constipation decreased from 28% who noted constipation prior to surgery, to 4% after it. Long-term results in all patients are satisfactory - low recurrence rate and acceptable anal sphincter function. On large material, it is confirmed, that surgery with prolapse of the rectum should be not only radical, but also reconstructive - restorative.*

Rectal prolapse is a rare disease. So, according to the studies of most authors, it is an average of 0.3-5.2% among all coloproctological diseases [ 3, 5, 7,11 ]. The authors of most modern studies believe that this disease is much more common in women [1,2,5,12].

Despite the fact that rectal prolapse extremely rarely leads to the death of the patient, this disease significantly reduces the quality of life, limits the patient's social activity, often leads to changes in the mental sphere, and in some cases to disability. In addition, in 30-90% of cases, it is combined with insufficiency of anal sphincter [ 5,8,9 ], which further enhances the social maladaptation of patients.

There is no final clarity on the etiology and pathogenesis of rectal prolapse. There are two main theories that consider prolapse of the rectum as either a sliding hernia or invagination, but recently most authors have been inclined to combine them [2,5,10]. Based on these theories, a large number of different types of surgical interventions have been proposed to treat this disease.

Despite the large number of types of surgical interventions proposed to correct rectal prolapse, the optimal operation that can solve this problem has not been found: some interventions are accompanied by a large number of complications, others lead to frequent development of relapses, and others are accompanied by the development of severe functional disorders in postoperative period [ 1,6,7 ]. Of the variety of proposed methods for surgical treatment of rectal prolapse in practice, only a few are used.

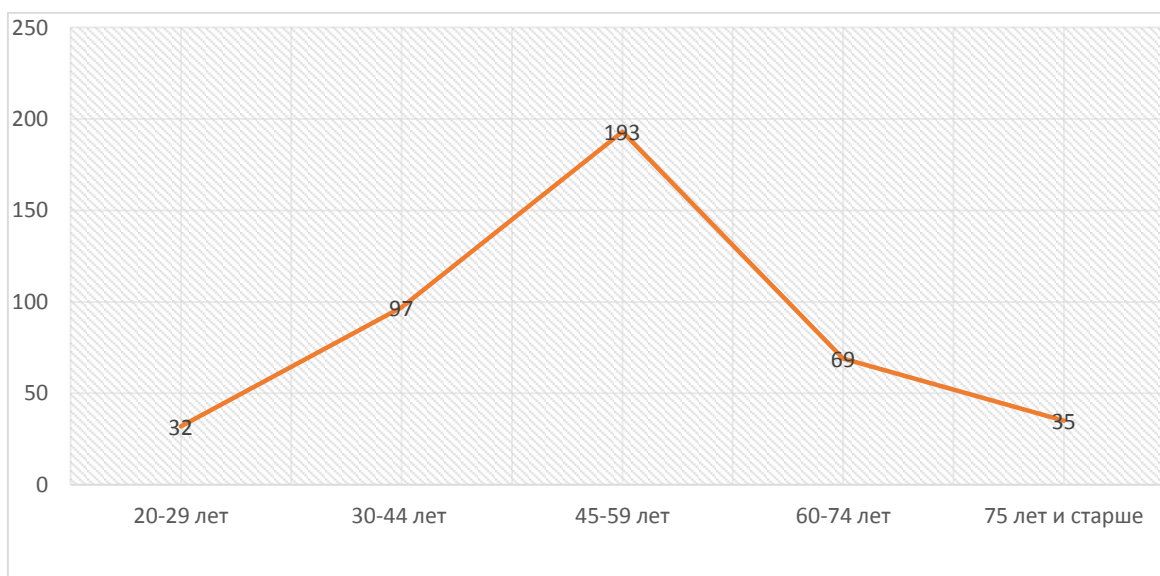
According to literature data, there are no full-fledged studies comparing perineal and abdominal operations not only in the number of relapses, but also in functional results and the impact on the quality of life [2,4,10,12].

In addition, most of the proposed methods of surgical treatment are aimed at correcting the actual prolapse of the rectum, while the insufficiency of the anal sphincter, which is present in more than 50% of patients, is ignored [3,6,12]. To eliminate concomitant insufficiency of anal sphincter, it was proposed to combine the main surgical intervention with sphincteroleoplasty [1, 4, 6, 7]. Despite this, many surgeons refused combined operations due to the high risk of purulent complications. However, failure of the anal sphincter becomes the main complaint in patients after elimination of prolapse of the rectum.

The brief information presented confirms the urgency of the problem of finding optimal methods of treatment for patients with rectal prolapse.

**Objective:** to study results of surgical treatment in patients with rectal prolapse.

**Materials and research methods.** From 2003 to 2018 In the Department of Coloproctology of the 1st Clinical Hospital of the Ministry of Health of the Republic of Uzbekistan, 426 patients with rectal prolapse were operated on, the average age of which was  $45.2 \pm 3.8$  years. When the distribution of patients by gender male was 138 (32.4%), 288 women (67.6%). The distribution of patients by age is presented in Fig. one.

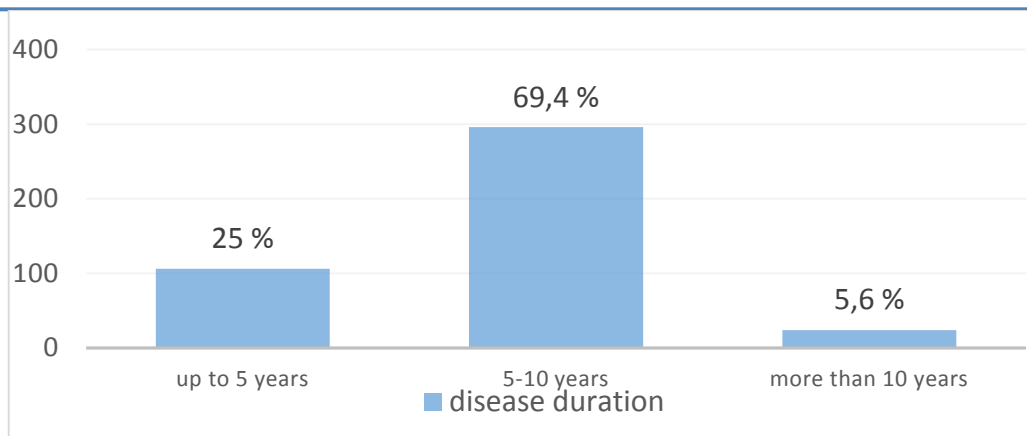


**Figure 1.** Distribution of patients by age.

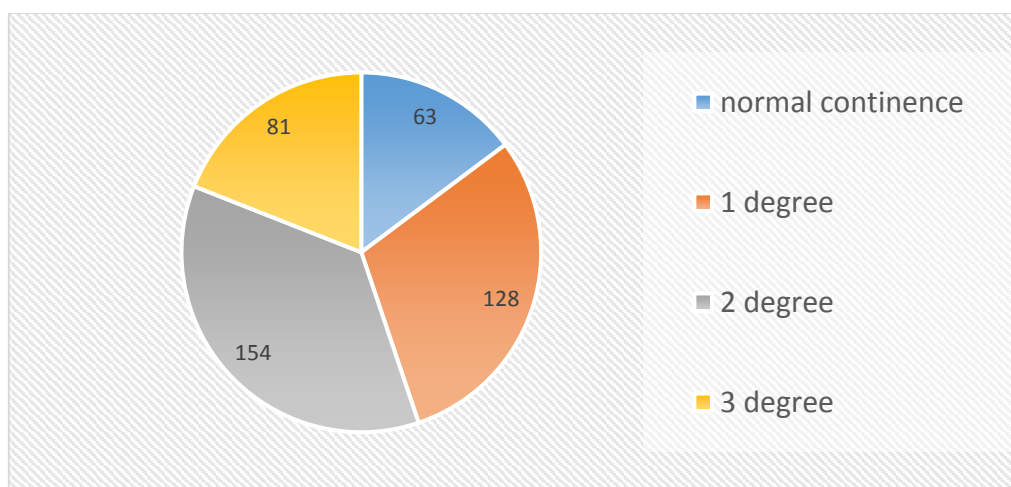
The duration of the history of the disease in patients with prolapse of the rectum, in the vast majority of cases, was from five to ten years. A comparison of anamnesis duration indicators is presented in Fig. 2.

When distributing patients according to the stage of rectal prolapse, 73% were patients with III degree, 7% - with I and II degree, 20% - with IV degree.

Patients were distributed according to the degree of anal incontinence presented in Fig. 3.



**Figure 2.** Distribution of patients on a long history of illness



**Figure 3.** Distribution of patients by degree of anal incontinence .

The most common complaint encountered in 100% of patients was protrusion from the anus. The second most common occurrence (85%) was a sensation of moisture in the anus. Also, abdominal pain was often noted, intensifying with prolapse of the rectum during the act of defecation. This symptom was observed in 66% of patients. In 65% of patients, complaints of fecal and gas incontinence associated with insufficiency of anal incontinence were noted. Other complaints, such as anal itching, mucus secretion, constipation were less common ( 12-37 %).

Patients also reported concomitant diseases, shown on Table 1.

**Table 1**

The incidence of concomitant diseases in patients with rectal prolapse .

ACCOMPANYING ILLNESSES	QUANTITY
Hypertonic disease	83
Varicose veins	61
Anemia	52
Chronic colitis	48
Obesity	22
Peptic ulcer and duodenal ulcer	21
Uterine prolapse	19
Prolapse of the vaginal stump	11
Diabetes	9
Other	8

All patients were examined according to the standard accepted at our Center, which includes, along with general clinical, instrumental (ECG, chest fluoroscopy, EGDFS, ultrasound of the abdominal organs) and special (rectoscopy, colonoscopy, defecography, irrigography, sphincterometry) research methods.

From surgery, abdominal rectopexy were performed 407 patients, of which 106 patients underwent surgery at Frykman-Goldberg, 281 patients – rectopexy by Kyummel-Zerenin modification SSC Coloproctology MoH. Mesh rectopexy such as Ripstein surgery (4 patients) and Walles surgery (6 patients) were also performed. Of the perineal operations, we used the Delorme operation in 19 patients.

In the postoperative period, in order to improve the functional results of surgical correction of rectal prolapse of a part of the patients who did not observe an independent restoration of the function of the anal sphincter, it was necessary to carry out therapy using the “biological feedback” method.

**Results and discussion.** The criteria for evaluating the effectiveness of surgical treatment were the recurrence of the disease, the nature of the stool, the need for laxatives, or the persistence of incontinence complaints.

Analysis of the results of the treatment of rectal prolapse in 281 patients with the Kyummel-Zerenin method according to the modification of the SSC Coloproctology of the Ministry of Health of the Russian Federation (Scheme 1) revealed the absence of mortality and complications. Relapses were observed in one patient (0.3%), but the number of patients with constipation was 0.6 %.

To eliminate concomitant insufficiency of anal sphincter, a combination of main surgical intervention with sphincterolevatoroplasty was used. Of these, 81 patients underwent Kyummel-Zerenin surgery to modify the SSC Coloproctology of the Ministry of Health of the Russian Federation in combination with sphincteroplasty, with no recurrence, and in 100% of cases an improvement in the function of the anal sphincter was noted. In 19 patients, Kyummel-Zerenin surgery was performed to modify the SSC Coloproctology of the Ministry of Health of the Russian Federation in combination with venteropexy, with associated uterine prolapse, 11 patients with concomitant prolapse of the vaginal stump, abdominal rectopexy was combined with retro-symphysic colpexy (table 2). Of these, in 3 patients (10%) was used propylene mesh graft for fixing uterine stump or vagina, where the recurrence is not observed.

**Table 2**

Combined operations with the Kyummel-Zerenin operation modified by A.N. Ryzhikh, recommended by the SSC Coloproctology of the Ministry of Health of the Russian Federation

Type of operations	Venteropexy	retro-symphysic colpexy	Sphincteroplasty
Number of patients	19	11	81
Indication	Uterine prolapse	Prolapse of the vaginal stump	Insufficiency of anal sphincter III Degree

In addition, we used rectopexy in combination with sigmoresection for the treatment of rectal prolapse, which is very popular in the United States and where it is better known as the Frickman-Goldberg operation [9, 11, 13]. In this group of 106 patients, only 2% developed relapse, but when assessing long-term results, in 6% of

cases, the result of surgical treatment of rectal prolapse was considered unsatisfactory due to the development of constipation.

Operation Ripstein (anterior rectopexy) was performed in 4 patients; mortality and relapses were not observed in more than one case. However, impaired defecation due to constipation was observed in one patient. The results of the treatment of rectal prolapse in 6 patients who underwent posterior rectopexy (Walles operation) showed no relapse, while the function of the anal sphincter improved in all patients, and there was no development of constipation in the postoperative period.

The long-term results of abdominal rectopexy are satisfactory - a low frequency of relapse (0.7%) and an acceptable function of anal sphincter, especially in cases where the operation was combined with sphincteroplasty (Table 3).

**Table 3**

Comparative results of abdominal rectopexy

No.	Types of operation	Number of patients	Constipation	Relapse	Fatal outcome
1	Frickman - Goldberg Operation	106	6	2	-
2	Kyummel-Zerenin surgery to modify the SSC Coloproctology of the Ministry of Health of the Russian Federation	281	2	1	-
3	Operation Ripstein	4	1	-	-
4	Operation Walles	6	-	-	-
<b>Total</b>		407	9	3	-

Of the perineal operations in the world, the operation of perineal rectosigmoidectomy (Altemeier) and Delorme's surgery are currently widely used.

We used the Delorme operation, perineal plication of the prolapsed rectum, including the removal of the mucosa from the prolapse of the rectum, followed by the formation of a fold (duplicate) from the exposed muscle of the intestine and anastomosis of the mucosa in elderly patients, especially with severe concomitant pathology. According to this technique, 19 patients were operated on. The advantage of this operation is that it does not provide for complete resection of the intestine, is performed from the perineum, and can be performed under local anesthesia.

Despite the relatively high number of relapses of the disease, developing from 6 to 50% of cases, according to various authors (table 4) [4,10,13], this operation is less traumatic, accompanied by a small number of complications that do not threaten the patient's life, provides an opportunity to choose an anesthetic benefits and is the operation of choice for elderly patients with severe concomitant somatic pathology [5,10,13]. That is why, choosing the perineal approach to treatment, we preferred the operation of Delorme.

According to our data, the operation is not accompanied by mortality and is characterized by a moderate percentage of relapse - up to 5%, not leading to worsen in the general condition of patients. The evacuation function of the rectum did not change, the postoperative period proceeded with a minimally expressed pain syndrome, early restoration of independent enteral nutrition. No need for long bed rest. In none of our cases, postoperative anus stricture was formed. However, in the long-term postoperative

period, retention function improved in 8 out of 19 patients; relapse was diagnosed in 1 patient.

**Table 4**

Comparative analysis of relapse of Delorme's surgery in various authors [13].

Authors	Number of patients	Relapse
Dep.Coloproctology RCH 1 Mz RUz (2018)	19	5 %
Uglih and Sullivan (1979)	44	7%
Monson about et al . (1986)	27	7%
Senapati et al . (1994)	32	13%
Tobin and Scott (1994)	43	26%

Patients who have complained of fecal incontinence, i.e. without improvement of the function of the anal sphincter after surgical treatment, 1-3 months after the operation (total - 128 people, 7 (38%)) - after the Delorme operation, 42 (39%) - after the Frickman-Goldberg operation, 79 (28% ) - after the operation of Kümmeel-Zerenin), they conducted a course of therapy using the method of "biological feedback". In 32 (25%) of 128 patients, the use of biological feedback made it possible to fully restore the function of anal sphincter, and in 44 (35%) - a partial improvement. Thus, the implementation of biofeedback therapy yielded positive results in 60% of patients.

#### Conclusions:

1. Surgery for rectal prolapse should not only be radical, but also reconstructive - restorative.

2. The use of abdominal surgery for rectal prolapse gives good results in young and middle-aged patients , 2.2% - 0.7% and complications - relapses , whereas in Making a perineal operations under local anesthesia, it is advisable in elderly patients whose condition is burdened expressed concomitant diseases and a high risk of anesthetic management , also shows a low percentage of relapse - 5% and the absence of postoperative mortality .

3. To improve the function of the obturator, the use of biofeedback therapy in the postoperative period yielded positive results in 60% of patients.

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