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THE COMPARATIVE ANALYSIS OF THE REMOTE RESULTS AT THE PATIENTS TO WHOM HAS BEEN CARRIED OUT A TOTAL MESORECTAL EXCISION CONCERNING MALIGNANT TUMORS OF A RECTUM.

Summary

The comparative analysis of the remote results at the patients to whom has been carried out a total mesorectal excision concerning malignant tumors of a rectum.

Aim. Assessment of survival of the patients to whom has been carried out laparoscopic and open TME concerning rectum cancer.

Materials and methods. We have examined 103 patients with the diagnosis of cancer of various departments of a rectum. Patients have been divided on 2 groups: 1) patients to whom TME - has been executed by the open way (OTME) (n=56), 2) patients to whom TME has been carried out by a laparoscopic method (LTME) - (n = 47). Observation of patients in terms from 6 months up to 3 years with assessment of the actual and recidivless three-year survival was made.

Results. From 103 considerably operated patients in terms from 6 months up to 5 years the destiny of 97 (94,2%) patients is tracked. A recurrence of a disease and the remote metastasises are revealed in 17,7% of observations in the LTME group and in 19,2% of cases in the OTME group. The actual survival of the patients who have transferred laparoscopic TME was 83%, recidivless three-year survival - 58,9%. At open TME the Actual survival and recidivless three-year survival were 63,8% and 83% respectively.

Conclusions. In the comparative analysis of indicators of three-year survival of patients in both groups of statistically reliable distinctions it isn't revealed. The key indicator exerting impact on oncological efficiency of the carried-out operations is the stage of tumoral process and circumferential resection margin-(CRM).

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СРАВНИТЕЛЬНЫЙ АНАЛИЗ ОТДАЛЕННЫХ РЕЗУЛЬТАТОВ У БОЛЬНЫХ, ПЕРЕНЕСШИХ ТОТАЛЬНУЮ МЕЗОРЕКТАЛЬНУЮ ЭКСЦИЗИЮ ПО ПОВОДУ ЗЛОКАЧЕСТВЕННЫХ НОВООБРАЗОВАНИЙ ПРЯМОЙ КИШКИ.

Целью исследования явилась оценка выживаемости пациентов, перенесших лапароскопическую и открытую ТМЭ по поводу рака прямой кишки.

Материалы и методы. Нами были обследованы 103 больных с диагнозом рака различных отделов прямой кишки. Больные были разделены на 2 группы: 1) пациенты, которым была выполнена ТМЭ открытым способом (ОТМЭ) -(n=56), 2) пациенты, которым ТМЭ была осуществлена лапароскопическим

методом (ЛТМЭ) - (n= 47). Проводилось наблюдение за пациентами в сроки от 6 месяцев до 3 лет с оценкой фактической и безрецидивной трехлетней выживаемости.

Результаты. Из 103 радикально оперированных пациентов в сроки от 6 месяцев до 5 лет прослежена судьба 97 (94,2 %) больных. Рецидивы заболевания и отдаленные метастазы выявлены в 17,7 % наблюдений в группе ЛТМЭ и в 19,2% случаев в группе ОТМЭ. Фактическая выживаемость пациентов, перенесших лапароскопическую ТМЭ, составила 83 %, безрецидивная трехлетняя выживаемость - 58,9%. При открытой ТМЭ Фактическая выживаемость и безрецидивная трехлетняя выживаемость составили 63,8 % и 81.7% соответственно.

Выводы. При сравнительном анализе показателей трехлетней выживаемости больных в обеих группах статистически достоверных различий не выявлено. Основным показателем, оказывающим влияние на онкологическую эффективность выполняемых операций, является стадия опухолевого процесса и циркулярный край резекции (circumferential resection margin-CRM).

The incidence of colon cancer, according to various sources, is growing steadily [1,4,6,9]. Despite the fact that the application of total mesorectal excision (TME) in such tumors has opened up new possibilities, the results of treatment are not so favorable. The question of the benefits of open or laparoscopic TME methods is still a questionable issue [2,3,4,7]. Despite the fact that the latest technologies open up great opportunities for surgeons, carrying out TMEs to date has some difficulties and is by no means an ideal solution to the problem [1,2,3,8]. Some authors argue that carrying out laparoscopic TME in locally advanced tumors, especially in individuals with a narrow pelvic cavity, is not justified due to the lack of favorable opportunities for its correct implementation [2,4,5]. Researchers believe that under these conditions, the frequency of local relapses is high, which in this group of patients is 4-25%, sometimes reaching 85% [2,3,4,5,9]. Other authors express an opinion about the fallacy of such statements, believing that there is no obvious difference between the efficacy of laparoscopic and open TME in this pathology [2,5,7]. This group of researchers associates unsuccessful results of surgical interventions with insufficient qualification of the surgeon in performing such operations [2,5,7,9]. Unfortunately, the literature data are not able to clarify this issue, which dictates the need to continue research in this direction. The introduction of laparoscopic technologies facilitated the emergence and isolation of a certain group of surgeons who have a sufficiently high qualification precisely in the performance of such surgical interventions. Thus, improving

the skills in performing laparoscopic TME also has an important effect on the results of treatment of patients.

The aim of the study was to assess the survival of patients who underwent laparoscopic and open TME for rectal cancer.

Materials and methods.

We examined 103 patients diagnosed with cancer of various parts of the rectum. Patients were divided into 2 groups: 1) patients who had TME performed by the open method (OTME) - (n = 56); 2) patients to whom TME was performed by laparoscopic method (LTME) - (n = 47). Patients were monitored between 6 months and 3 years with an assessment of the actual and disease-free three-year survival.

Results and discussion.

One of the main indicators of oncological effectiveness of performed operations is the frequency of disease return and patient survival. Of the 103 radically operated patients in the period from 6 months to 5 years, the fate of 97 (94.2%) patients was traced. The remaining 6 (5.8%) are excluded from the further evaluation of the long-term results due to the impossibility of their planned surveys due to the remoteness of the place of residence. Of the 47 patients who underwent laparoscopic TME, 45 (95.7%) were recovered, and out of 56 patients who underwent open TME, 52 (92.9%).

Relapses of the disease and distant metastases were detected in 17.8% of the observations in the LTME group and in 19.2% of the cases in the OTME group (see Table 1).

Table 1.

The frequency of local recurrences and distant metastases.

Disease return	LTME (n = 45)		OTME (n = 52)	
	Abc. number	%	Abc.number	%
Local relapses	5	11,1	6	11,5
Distant metastases	3	6,7	4	7,7
All	8	17,8	10	19,2

Local recurrences of the disease were diagnosed in 11.1% of patients after laparoscopic TME of the rectum and in 11.5% of patients after open TME. Remote metastases were detected in 6.7% of the people in the

LTME group and in 7.7% of the observations in the OTME group.

The timing of the detection of disease return and distant metastases ranged from 6 to 46 months. The data are presented in Table 2.

Table 2.

Timing of detection of disease return and distant metastases in patients after TME				
Time of disease return (monthes)	LTME(n = 8)		OTME (n = 10)	
	Local relapses n = 5	Distant metastases n = 3	Local relapses n = 6	Distant metastases n = 4
6 – 12	2	-	2	-
13 – 18	1	1	2	1
19 – 24	1	-	1	-
25 – 30	-	1	1	1
37 – 36	1	-	-	1
37 – 48	-	1	-	1

Most often relapses and distant metastases, both in the laparoscopic group, and in the OTBE group, occurred within the first two years from the time of surgery. Both after laparoscopic and after open TME, the

incidence of relapses and distant metastases correlated with the histological structure of the tumor and was markedly higher in patients with poorly differentiated forms of cancer (Table 3).

Table 3.

Dependence of the frequency of disease return on the histological structure of the tumor.

Histological Types	LTME (n = 45)				OTME (n = 52)			
	Number of patients		Relapses and metastases		Number of patients		Relapses and metastases	
	Abc. Number	%	Abc. Number	%	Abc. Number	%	Abc. Number	%
Highly differentiated adenocarcinoma	12	26,7	1	8,3	14	26,9	1	7,14
Moderately differentiated adenocarcinoma	27	60	5	18,5	31	59,6	7	22,5
Low-grade adenocarcinoma	5	11,1	1	20	7	13,5	2	28,6
Mucous adenocarcinoma	1	2,2	1	100	-	-	-	-

Along with the histological structure of the tumor, the incidence of local recurrences and distant metastases is affected by the depth of infiltration by the intestinal tumor and the degree of regional lymph node involvement. In our study, only three observations, (1 after laparoscopic and 2 after open TME) revealed distant metastases. In the remaining observations, both in the LTME group and in the OTBE group, local recurrences and distant metastases occurred in patients in whom the tumor germinated all the layers of the intestinal wall

and deeply grew into the surrounding tissue (T₃, T₄). Even more significantly increases the frequency of disease return in the presence of metastases in regional lymph nodes (N₁-N₂).

Repeated surgical interventions for relapse of the disease were performed only in 22% of 9 patients. In one patient, at 22 months after the open TME with the revealed relapse in the area of the rectal anastomosis, the abdominal perineal extirpation of the rectum was performed (Fig. 1)

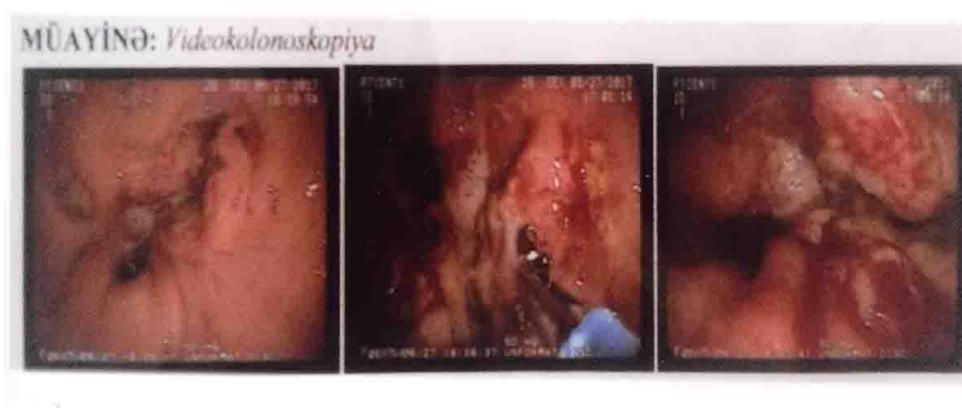
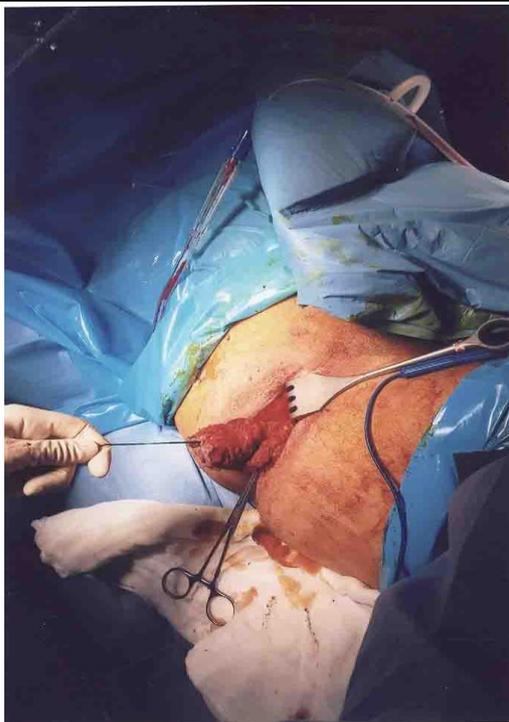


Fig.1. Patient M., 56 years old. Relapse in the field of colorectal anastomosis (colonoscopy).



*Fig.2. Removal of the rectum.
(intermediate stage) in the same patient*



Fig.3 Removed drug.



Fig.4. Completed view.

In patient 1 (49 years), 18 months after open TME, a relapse occurred in the anastomosis area. An abdominal - perineal extirpation of the rectum was performed. In this patient, in order to prevent the entering of the small intestine loops into the small pelvis, we fixed the uterus to the area of the entrance to the small pelvis.

We give two more observations. Patient X., 47, suffered a laparoscopic TME for colon cancer. In 8 months after the operation, due to 1 detected relapse in the suppressive region (without invasion) and metastasis in the ovary, abdominal perineal extirpation of the rectum and amputation of the uterus with appendages

were performed. After 12 months, the patient was diagnosed with metastases in the liver against the background of chemotherapy, and 31 months after the operation the patient died of progression after a second disease.

Patient S. 57 years old, also suffered laparoscopic TME. After 13 months, a bilateral tubercovectomy was performed, with the removal of a large omentum about a metastatic lesion. The patient died 33 months later from the progression of the disease.

The remaining 6 patients due to the prevalence of disease recurrence carried out only radiation and chemotherapeutic treatment, as well as symptomatic therapy. All of them died from the progression of the

disease in terms of 1 to 4 years. Most patients operated by us have not yet reached the five-year period since the operation. Three-year results were traced in 63.8% of 45 patients who underwent laparoscopic TME, and 58.9% of 52 patients undergoing open TME.

Out of 30 patients operated three or more years ago in a laparoscopic way, 24 (80%) people showed no signs of disease return. In 6 (20%) cases, relapse was diagnosed (in 4 patients - local recurrence, in 2 patients distant metastasis). Two patients survived a three-year period with progression of the recurrence of the disease. Four patients died (2 had distant metastases, 2 had a local relapse) from dissemination of the underlying disease in the period from 16 to 31 months after the operation, the average life span was 21.75 months. Thus, the actual survival of patients who underwent laparoscopic TME was 83%, a relapse-free three-year survival rate of 58.9%.

Out of 33 patients who underwent open TME three or more years ago, 25 (75.7%) people are alive without signs of disease return. In 8 (24.32%) patients, local relapses and distant metastases were diagnosed. For three years, 4 (12.1%) patients died within 16 to 26 months. The average life expectancy was 20.75 months. The remaining 4 (12.1%) patients experienced a three-year period with progression of the disease. The actual survival and recurrence-free three-year survival rate were 63.8% and 81.7%, respectively.

In a comparative analysis of the three-year survival rates of patients in both groups, statistically significant differences were not revealed. Just as with the development of relapses of the disease, the main factor affecting the survival of patients is the depth of invasion by the tumor of the intestinal wall and the degree of involvement of the regional lymph nodes (Table 4).

Table 4.

Three-year survival of patients depending on the prevalence of the tumor process.

TNM	LTME (n = 30)		OTME (n = 33)	
	Number of all patients	Number of patients who have lived 3 years	Number of all patients	Number of patients who have lived 3 years
T ₁ N ₀ M ₀	2	2 (100 %)	3	3 (100 %)
T ₂ N ₀ M ₀	3	3 (100 %)	4	4 (100 %)
T ₂ N ₁₋₂ M ₀	9	8 (88,9 %)	10	9 (90 %)
T ₃ N ₀ M ₀	6	5 (83,3 %)	5	4 (80 %)
T ₃ N ₁₋₂ M ₀	6	4 (66,7 %)	6	5 (83,3 %)
T ₄ N ₁₋₂ M ₀	4	2 (50 %)	5	2 (40 %)
Bcero	30		33	

As the depth of invasion by the tumor of the intestinal wall and the degree of regional lymph node involvement diminish, the survival of patients after laparoscopic and after open TME is reduced.

Five years after the total mesorectal excision for rectal cancer, 19 (40.4%) of 47 patients undergoing LTME and 22 (39.3%) of 56 patients who had TME performed by the open method were tracked.

Of the 19 patients who underwent LTME five or more years ago, 11 (57.9%) patients were alive, 8 (42.1%) patients died of progression of the underlying disease at a period of 18 to 52 months (an average of 38, 62 months).

Of the 22 patients who underwent OTME, 12 (54.5%) patients were alive for five years, 10 (45.5%) died within 18 to 55 months (an average of 38.8 months).

There were no significant differences in the rates of disease-free and actual five-year survival in the main and control groups. The main factors affecting the five-year survival of patients are the depth of invasion by the tumor of the intestinal wall and the degree of involvement of regional lymph nodes.

Five-year survival of patients, depending on the prevalence of the tumor process is presented in Table 5.

Table 5.

TNM	LTME n = 24		OTME n = 27	
	Number of operated patients	Number of patients living more than 5 years	Number of operated patients	Number of patients living more than 5 years
T ₁ N ₀ M ₀	2	2 (100 %)	3	3
T ₂ N ₀ M ₀	3	3 (100 %)	4	3
T ₂ N ₁₋₂ M ₀	8	7	9	6
T ₃ N ₀ M ₀	5	3	4	2
T ₃ N ₁₋₂ M ₀	4	2	5	2
T ₄ N ₁₋₂ M ₀	2	7	2	1

Therefore, the comparative analysis of the long-term outcome of treatment of patients suggests that the use of laparoscopic technology in operations for colon cancer (LTME) does not adversely affect the incidence

of relapse and survival of patients. The main indicator affecting the oncological effectiveness of the operations performed is the stage of the tumor process and the circumferential resection margin (CRM). As the

depth of invasion by the tumor of the intestinal wall, the degree of regional lymph node involvement and CRM-positivity progressively decreases the survival rate of patients, regardless of the method of performing surgical intervention.

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