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EMERGENCY SURGICAL AID TO PATIENTS WITH COLORECTAL CANCER IN THE REPUBLIC OF SAKHA (YAKUTIA)

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The article presents materials of the coloproctology department of the Republic hospital №2 - Emergency Medical Center for the last five years (2018-2022). Diagnosis and treatment of 399 patients with complicated colorectal cancer admitted by emergency indications were analyzed. 115 patients (28.8%) were delivered from the districts of the Republic by air ambulance. The remaining 284 patients (71.2%) were hospitalized from Yakutsk and its suburbs. 90% of patients were operated by emergency. The mortality rate after emergency surgical interventions amounted to 20.2%.

Keywords: neoplasms, colon, colorectal cancer, surgical treatment.

Introduction: Emergency surgical care in the Republic of Sakha (Yakutia) has its own peculiarities related to the vast territory, sparsely populated areas, transportation scheme and weather con-

ditions [3]. There is a certain number of patients with complicated colorectal cancer among emergency surgical patients, who are admitted urgently to the surgical departments, as well as to the coloproctology department of the Republic hospital №2 - Emergency Medical Center. Specialized oncological care in the Republic is provided by the State Budgetary Institution of the Republic of Sakha (Yakutia) "Yakutsk Republic Oncological Dispensary".

According to the researches [2], colorectal cancer ranks the 3rd position in the structure of oncologic morbidity in developed countries after lung cancer and gastric cancer, and accounts for 4-6% of the total oncopathology. There is an increase in the level of primary morbidity of malignant neoplasms by 13.4% according to the data of Yakutsk oncological dispensary for the last 10 years in the Republic of Sakha (Yakutia). 2506 cases of malignant neoplasms were detected

in 2021 in the Republic for the first time. It is established that the age of patients with first detected colorectal cancer is predominantly older than 50 years old, and women are 1.5 times more often than men. [6]. Colorectal and rectosigmoid cancer occupies leading positions in morbidity and mortality among other malignant tumors due to clinical statistics. 45277 new cases of colorectal cancer were registered in 2019 in Russia, 23593 patients died from this disease [1]. Colorectal cancer was 14.0 per 100 thousand population, and rectosigmoid-rectal cancer was 12.2 per 100 thousand population in the Republic of Sakha Yakutia in 2019 according to L.N Afanasyeva and co-author study [2]. The mortality rate was 5.3 deaths per 100,000 population for colorectal cancer, and 3.0 per 100,000 population was for rectosigmoid-rectal cancer. The main problem in colorectal cancer is the occurrence of various complications in 8-30% of patients, first of all

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stenosis, manifested by acute obturation colonic obstruction, bleeding and perforation (8). Lethality in these complications ranges from 7.6 to 55.5%. [4] [5].

Materials and Methods. 399 patients with colorectal malignant neoplasms underwent emergency surgical treatment in the coloproctology department of Republic hospital №2 from 2018 to 2022. There were 103 patients in 2018, 85 - in 2019, 59 patients - in 2020, 51 - in 2021 and 101 patients - in 2022. There was a decrease in the number of patients in 2019 and 2020 due to the COVID-19 pandemic. As for gender, there were more females than males yearly, ranging from 4% in 2022 to 12% in 2020. In the age distribution, the largest number of patients were over 60 years old. All patients on admission were examined in the emergency room: examination of specialists with history taking, general and biochemical tests, ultrasound of abdominal cavity organs, radiography of abdominal cavity review, CT and MRI as indicated. After diagnosis and indications for emergency surgical treatment, preoperative preparation was carried out, for some patients - in the intensive care unit. The surgeon's tactics were specified on the operating table after laparotomy and revision of abdominal cavity organs.



Localization of neoplasms

Table 1

Distribution of patients with ZNO who were urgently hospitalized in the coloproctology department of RB2-CEMP for emergency indications, by year

Year	Total patients	Primary		They are registered in YAROD	
		abs.	%	abs.	%
2018	104	78	75	26	25
2019	85	70	82	15	18
2020	59	51	86	8	14
2021	51	40	78	11	22
2022	101	78	78	23	23

Table 2

Distribution of operations by type, n(%)

Year	Total operations	Hemicolectomy on the right	Hemicolectomy on the left	Sigma resection	Rectal resection	Preventive colostomy	Others
2018	103 (100)	17 (16,5)	21 (20)	23 (22)	7 (7)	17 (16)	17 (16)
2019	85 (100)	18 (21)	11 (13)	19 (22)	4 (5)	19 (22)	14 (16)
2020	59 (100)	14 (24)	7 (12)	19 (32)	2 (3)	13 (22)	4 (7)
2021	51 (100)	17 (33)	10 (20)	16 (31)	3 (6)	3 (6)	2 (4)
2022	102 (100)	24 (23)	21 (20)	24 (23)	7 (7)	12 (12,3)	15 (15)

Results and Discussion. As a result of disease neglect, 399 (100%) patients were hospitalized in the Republic hospital №2 as an emergency with complicated forms of colorectal cancer. According to the coding peculiarities of colorectal disease in ICD-10 (International Statistical Classification of Diseases and Health Related Problems) patients were divided into the following groups (Fig.1). C18 - malignant neoplasms of the colon, C19 - malignant neoplasms of the rectosigmoid, C20 - malignant neoplasms of the rectum, C26-97 - other malignant neoplasms. When divided by gender, there were more women than men in each year, ranging from 4% in 2022 to 12% in 2020. In the age distribution, the greatest number of patients were over 60 years old. Elderly patients had comorbid pa-

Table 3

Histological verification of complicated colorectal cancer

Year	Total	Highly differentiated adenocarcinoma	High-grade adenocarcinoma	Low-grade adenocarcinoma	GIST tumor	Nonspecific T-cell lymphoma	Ring-shaped cell carcinoma	Mucinous adenocarcinoma	Squamous cell carcinoma
2018	103	14 (14%)	85 (82%)	2 (2%)	1 (1%)	1 (1%)			
2019	85	9 (10%)	71 (83%)	4 (5%)			1 (1%)		
2020	59	7 (12%)	49 (83%)	3 (4%)				1 (1%)	
2021	51	5 (10%)	43 (84%)	1 (2%)				1 (2%)	1 (2%)
2022	101	21 (21%)	69 (68%)	5 (5%)				3 (3%)	3 (3%)

thology, which determined the severity of the condition in the postoperative period. As for nationality, 53% were native inhabitants and 47% were the immigrant population. Out of the 399 patients who were admitted to the emergency room of the Republic hospital №2, and hospitalized in the coloproctology department for emergency indications, 307(61.5%) patients were diagnosed with primary cancer: in 2018 - 78(75%), in 2019 - 70(82%), in 2020 - 51(86%), in 2021 - 40(78%) and in 2022 78(77%) patients (Fig.2).

Our data show that the most frequent complication of colorectal cancer was obturation intestinal obstruction in 2018 - 61(59%), 51(61%) - in 2019, 43(73%) - in 2020, 32(57%) - in 2021 and 60(59%) cases in 2022. The second place in complications of malignant neoplasms was occupied by bleeding due to tumor decay with vascular arrosion, in 2018 - 19(18%), in 2019 - 13(15%), in 2020 - 7(12%), 2021 - 2 (9%) and in 2022 12(12%) patients. Then inflammatory complications (perforations, abscesses, peritonitis) in 2018 - 10(10%) , in 2019 - 8(9%), in 2020 - 3 (5%), in 2021 - 12(9%) and in 2022 - 11(11%), this complication has the highest mortality (see Fig. 7).

Nowadays, surgical intervention remains the method of choice in the treatment of colorectal cancer, especially in emergency admissions; the performed surgical intervention should not only comply with all oncologic principles of surgery, but also not reduce the patient's quality of life [7,8]. The hospitalized patients underwent the following surgical interventions on an emergency basis: hemicolectomy on the right side - 90(22.5%), hemicolectomy on the left side - 70(17.5%), Hartmann type surgery and sigmoid colectomy - 101(25.3%), removal of preventive ileostomy or colostomy - 64(16.0%), rectal resection - 23(5.7%) and other operations opening of abscesses,

paraproctitis - 51(13.0%) (Fig. 4).

Moderately differentiated adenocarcinoma -317(79.4%) occupied the first place in histologic verification of complicated colorectal cancer. Highly differentiated adenocarcinoma 56(14.0%), then low-differentiated adenocarcinoma - 15(3.75%) mucinous adenocarcinoma - 5(1.2%) and squamous cell cancer were found in 4(0.7%) cases. And 1(0.2%) each GIST tumor, T-cell lymphoma and persistent cell carcinoma were detected. (Figure 5).

The mortality by complicated colorectal cancer was -16(15.5%) in 2018 , 10(11.7%) in 2019, 15(25.4%) in 2020, 14(27.4%) in 2021 and 22(21.3%) in 2022. Mortality averaged 20.2% over the five years.

Conclusion: The complicated colorectal cancer remains urgent problem and requires special attention. In the Republic of Sakha (Yakutia) emergency care for patients with colorectal cancer is provided in surgical departments of hospitals and in the coloproctology department of the Republic hospital №2- Emergency Medical Center, where patients are admitted from Yakutsk and suburbs, as well as after telemedicine consultation and from the regions of the Republic by air ambulance. According to the research results, 307 (76.9%) patients were diagnosed with colorectal cancer with complications, which had not been diagnosed earlier. It should be noted that complications due to tumor growth may occur even in case of previously confirmed diagnosis, so 83 (20.8%) patients were registered in Yakutsk oncological dispensary. All patients were operated on for emergency indications after preoperative preparation, surgical tactics was specified intraoperatively. Radical tumor removal at emergency operations was performed in 261 (65.4%) patients. The lethality was 20.2% among the patients

with colorectal cancer operated on emergency indications.

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