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THE RESULTS OF THE PRESENT THERAPY OF COLORECTAL CANCER AT FIRST DEPARTMENT OF SURGERY – STATISTICAL ANALYSIS

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A b s t r a c t

Assessment of the surgical therapy of colorectal cancer at 1st Department of Surgery.

Retrospective analysis of 147 patients with determined diagnosis operated at 1st Department of Surgery in the period from 1.1.2000 to 13.9.2001. The accessible parameters borne on this diagnosis were taken from clinical notes and evaluated. The statistic analysis and computation of survival rate were made in the statistic centre with the aid of the KM method.

Men 66 %, the average age in the group of patients 65.62 ± 12.47 years, operation – radical 74.1 %; palliative 25.2 %; probe 0.7 %. Patients in 1st stage 6.8 %, 2nd stage 36.7 %, 3rd stage 24.5 %, 4th stage 22.5 %, stage unrecognized 1.4 %.

The survival rate is worse in stage IV compared with the others. The surgical treatment is the most effective method in colorectal cancer therapy. We have not found any relationship between clinical symptoms and the stage in the diagnosis time. The early screening is determinative for the patient survival prognosis.

K e y w o r d s

Colorectal cancer therapy, Analysis, Survival

INTRODUCTION

Tumours follow cardiovascular affections at the second position in cases of death in adult population. The incidence of colorectal cancer in the Czech Republic was 75.5 / 100 000 in 1997 population, which ranks it first in the world (*2*). There are 36 / 100 000 of dead people every year, which is about 15 % of all death cases for tumour aetiology (*2*).

In numerous clinical studies it was found that the main epidemiological factors for colorectal cancer are the influence of surroundings, inadequate movement, and obesity. At the present time the composition of food is emphasized. The monitored risk factor is the high ratio of animal fats and proteins in food and their proportion to the acceptance of dietary fibre (*3*). The low content of dietary fibres leads to slowing down of the intestine pass and to

increasing bile acid transformation to carcinogens (*3)*. The protective effects are associated with calcium, ascorbic acid, vitamin D, folacin, and some other substances (*1,2,3*). This affection is also linked with genetic diseases, where the familiar polyposis of the colon is the most known (*1,2*). The higher risk of colorectal cancer development is associated with patients with the same or some other tumour disease in the family anamnesis (*2*).

The aim of our study was to present a review of the colorectal tumour therapy in the patients treated at the First Department of Surgery. We were interested in the factors connected with tumour disease, in the spectrum of the diagnostic methods used, in some tumour characteristics, and in the types of surgical therapy.

MATERIALS AND METHODS

There were 147 operated patients with determined diagnosis of colorectal tumour in the period from 1.1.2000 to 13.9.2001, who were treated at 1st Department of Surgery, St. Anne's Faculty Hospital. The data concerning therapy were obtained from the clinical notes. Data from the National Oncology Registry in anonymous table form were also used.

We recorded demographic information (sex, age), the presence of tumour affection in the direct genetic relationship, the presence of metachronous and synchronous affection in personal anamnesis, subjective and objective difficulties, the spectre of diagnostic methods, staging and grading, presence and location of metastases, type of operation, subsequent therapy, and length of survival.

The clinical stage was stated on the basis of UICC TNM classification.

The surgical performances were divided into 3 groups – radical, palliative and probative. Radical were all operations with radical removal of the affected colon or rectum part along with their lymphatic system. Palliative were all operations with restoration of intestine passage and stomas without removal of the affected part or metastatic process. Only explorative laparotomy without resection or palliation was done in inoperative state.

RESULTS

There were 66 % men in the survey. The average age of a patient group was 65.6 ± 12.5 years, with a median of 67 years from 24 to 93 years dimension (*Fig. 1*).

There was no case of alcoholism. Smoking was registered only with 36 patients, which is 24.5 %.

The tumour affection in family anamnesis was observed with 17 % patients. Only 1.5 % of them was colorectal carcinomas. In 3 % of the cases, affection in two relatives was observed; neither was colorectal.

Representation of the affected colorectal parts: caecum + ascending colon 18.5 %, hepatic flexure 4.4 %, transverse colon 1.5 %, splenic flexure 5.9 %, descending colon 5.2 %, sigmoid colon + rectum 65.9 %. Synchronous carcinomas were registered with 1.36 %, metachronous with 3.7 % of the patients. The preceding polypectomy was registered with 6.66 % of the patients, the presence of disease such as familiar polyposis was not registered.

The spectrum of common presented difficulties is presented in *Fig. 2.* Out of these, the following were registered: tenesmus, the right leg oedema, accidental

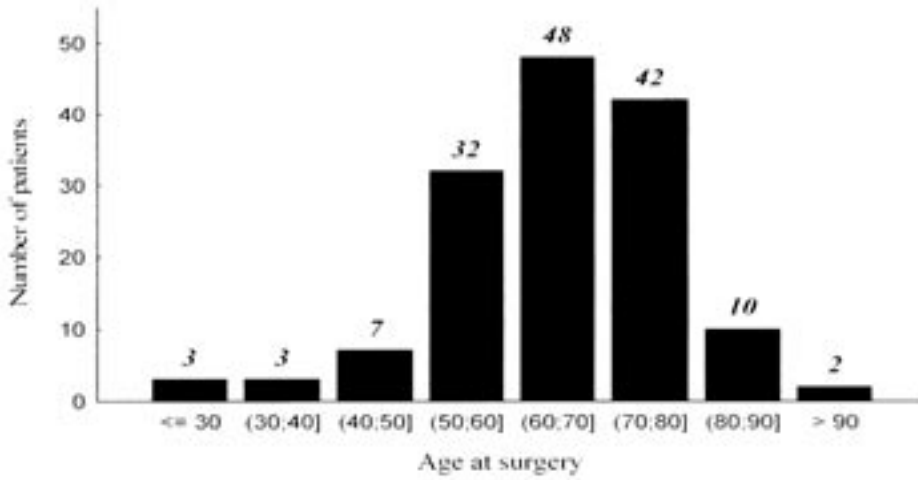

Fig. 1
The age distribution of patients, N = 147

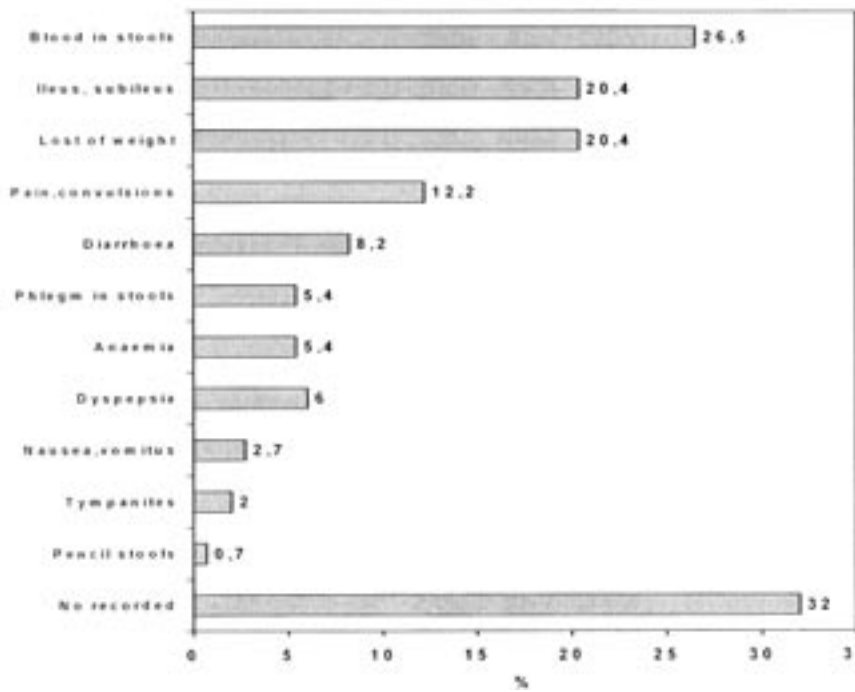

Fig. 2
Clinical symptoms

finding, control colonoscopy. All these above-mentioned difficulties form 0.7 % of the whole. The average lost of weight was 9.79 ± 4.86 kg.

The spectrum of diagnostic methods performed is presented in *Table 1.* With 40 patients (27.2 %) no types of methods performed were registered.

Only 8.16 % of the patients were operated on for benign colorectal tumour. Of them, 0.7 % was lipoma, the other were adenomatous polyps. With 91.14 % patients, malignant adenocarcinoma was diagnosed. Only one case of carcinoid in the ascending colon was present from other malignant tumour types.

Benign tumours were present in 8.2 % cases. The first stage was observed in 6.8 % of the patients, the second stage in 36.7 %, the third stage in 24.5 %, and the fourth stage in 22.5 % of the patients. No stage could be found or detected in 1.4 % of the patients. G1 was found in 11.1 %, G2 in 41.48 %, G3 in 5.9 % of the patients. It was not possible to find the grade determination in 46.9 % of the patients. The villous type was found in 1.4 %, the tubulovillous type in 7.5 %, the tubulous type in 32.7 % of the patients. No histological type was found in 58.5 % of the cases. The presence of histological types in different stages is presented in *Table 2.*

There were some relapse operations in 5.2 % from the total number of 135 cases with malignant affection.

The Kaplan-Meier method was used for evaluation of the survival period. Different groups in number from our group of patients were used for calculation, where the necessary data were available. The results are presented in the form of figures. The magnitude of the data used and statistic significance are presented in the legends for each figure.

Radical operations were used in 74.1 % of the cases, palliative in 25.2 %, the state was evaluated as inoperable in 0.7 % of the cases; this was a probe operation. The ratios of the presented operation types come from the data of each surgeon in the surgery record. The Miles operation was carried out in 20.74 % of the cases, Dixon's operation in 6.66 %, Hartmann's resection in 2.96 %; 2.22 % of the operations were designated as low-low anastomosis. All the other operations were designated as resections with due anastomosis. Twelve patients were hospitalized for operation of colorectal benign polyps. Out of them, 41.6 % underwent polypectomy per colostomy, 41.6 % of them polypectomy per anum, 8.3 % both interventions at the same time, and 8.3 % underwent sigma resection.

Localization of the metastatic process was recorded in 27 cases. 74 % of them were found in the liver. Ranking as second were metastases in the peritoneum – 14.8 %. Metastases in omentum, mesentery and lungs were found in conformity with 3.7 %.

Only surgical therapy was recorded in 45.6 % cases. 12.24 % underwent a combination of chemo- and radiotherapy before the operation; 6.12 % of them in the second stage, 2.7 % in conformity in stages III and IV. 11.56 % underwent the combination after the operation – 4.76 % in the third stage, 3.4 % in conformity in stages II and IV. The other results are presented in *Table 3.*

Table 1
The spectrum of diagnostic methods used

	Number of investigations	% of patients	Number of first investigations	% of patients
Colonoscopy	77	52,4	65	44,2
Rectoscopy	14	9,5	8	5,4
TRUS	20	13,6	8	5,4
CT	19	13	4	2,7
NMR	1	0,7	0	0
Sonography	40	27,2	13	8,8
Oncomarkers	8	5,4	1	0,7
RTG,irigography	6	4	5	3,4
OK test	3	2	3	2

Table 2
The presence of histological types in different stages

Stage	Tubular	Villous	Tubulovillous	Total
0	0 (0 %)	0 (0 %)	0 (0 %)	0
I	2 (66.7 %)	0 (0 %)	1 (33.3 %)	3
II	20 (83.3 %)	1 (4.2 %)	3 (12.5 %)	24
III	15 (75.0 %)	0 (0 %)	5 (25.0 %)	20
IV	11 (78.6 %)	1 (7.1 %)	2 (14.3 %)	14

Table 3
The presence of radio- and chemotherapy

Stage 1	Before operation	After operation	Before + after operation
Chemotherapy	0	0	1 = 0.7 %
Radiotherapy	1 = 0.7 %	1 = 0.7 %	0
Stage 2			
Chemotherapy	0	17 = 11.56 %	10 = 6.8 %
Radiotherapy	9 = 6.1 %	7 = 4.76 %	2 = 1.36 %
Stage 3			
Chemotherapy	1 = 0.7 %	23 = 15.64 %	4 = 2.7 %
Radiotherapy	8 = 5.4 %	7 = 4.76 %	0
Stage 4			
Chemotherapy	1 = 0.7 %	10 = 6.8 %	4 = 2.7 %
Radiotherapy	4 = 2.7 %	7 = 4.76 %	0

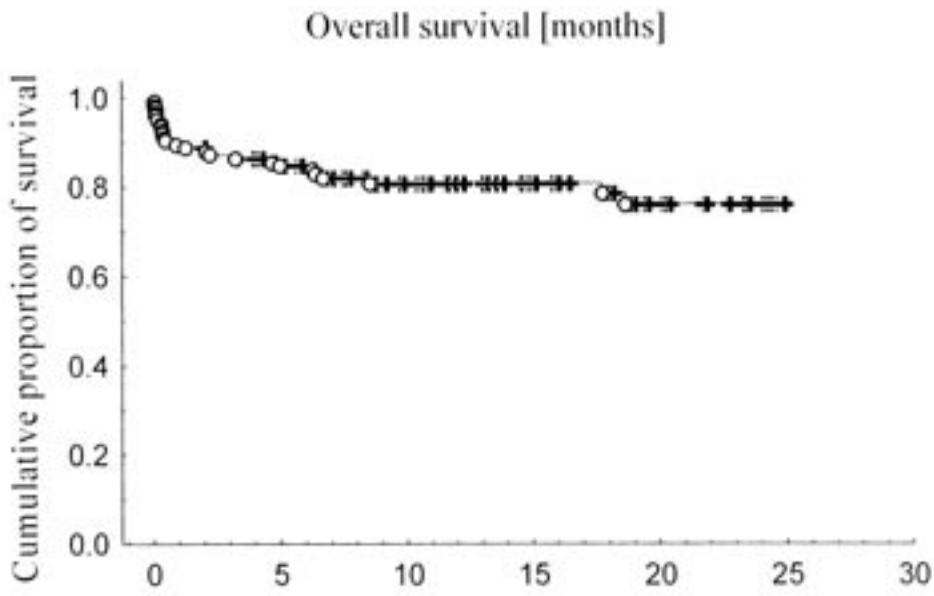

Fig. 3
Survival rate in time dependence, N = 125

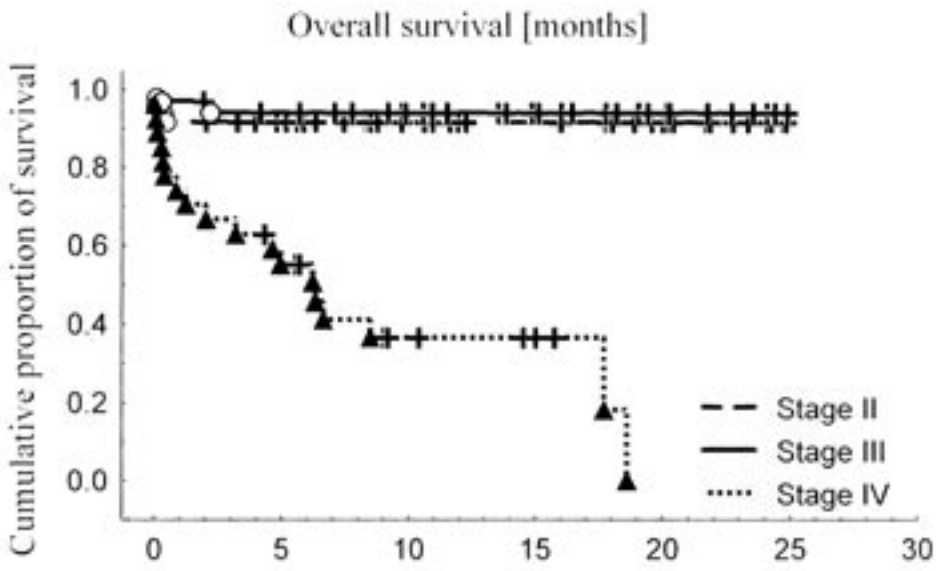

Fig. 4
Survival rate in stage dependence, N = 111, p ‹ 0.001

DISCUSSION

The disease occurs in both sexes at the same age. However, it is more frequent in males, 2:1 in distribution. We do not know the cause of this fact.

The most frequent clinical symptom in the patients was blood presence in the stools, but surprisingly it was not recorded in 1/2 of the patients. The frequently reported finding of phlegm in the stools was only recorded in 6 patients. Stenosis of the digestive system in different expression was a common complication. Subileus up to ileus is the first relevant symptom with about 20 %. These facts suggest that the symptom-free period is different in the time of duration. Therefore we cannot expect any manifestation in any one of the stages in predominance. The validity of these data is lowered by the fact that no symptoms were recorded in 1/3 of the patients.

Endoscopic methods are the dominant diagnostic methods in colorectal carcinoma problems. Colonoscopy was used nearly in 70 % of the patients. Together with rectoscopy almost all of the patients were investigated by means of the endoscopic method. Transrectal sonography gives us data about affection of nearer structures or the metastatic process in the nearby lymph nodes. The zero X-ray presence is positive against a CT. The common use in the diagnostic procedure is at the beginning in these days.

There are more benign tumours in this region. Our recorded cases required operative treatment in narcosis. In this statement there are no treatments that are common in outpatient care with colonoscopic technique.

The survival of the patients depends on the stage and histological tumour classification. We noted the worst prognosis in patients in the fourth stage (*Figs. 3, 4, 5, 7, 8*). In *Fig. 2* a low difference in survival is presented between patients in stages II and III in comparison with the difference between stages III and IV. This fact could be explained as an unfavourable influence of numerous metastases into organs in the fourth stage. We compared the survival rates between the Miles operation and other operations used for affections of up to 15 cm from the anocutaneous borderline. The longer survival connected with the Miles operation can be explained on account of its higher radical technique (*Fig. 6*).

The survival rate is worse in stage IV compared with the others. The presence of metastases in organs caused a worse disorder prognosis. We demonstrated in our study that the best method used in colorectal tumour therapy at present is the radical operative performance. Early diagnosis is of a big value in disorder prognosis. We recommend to use and search for more screening methods. They are of indisputable value for the disorder prognosis.

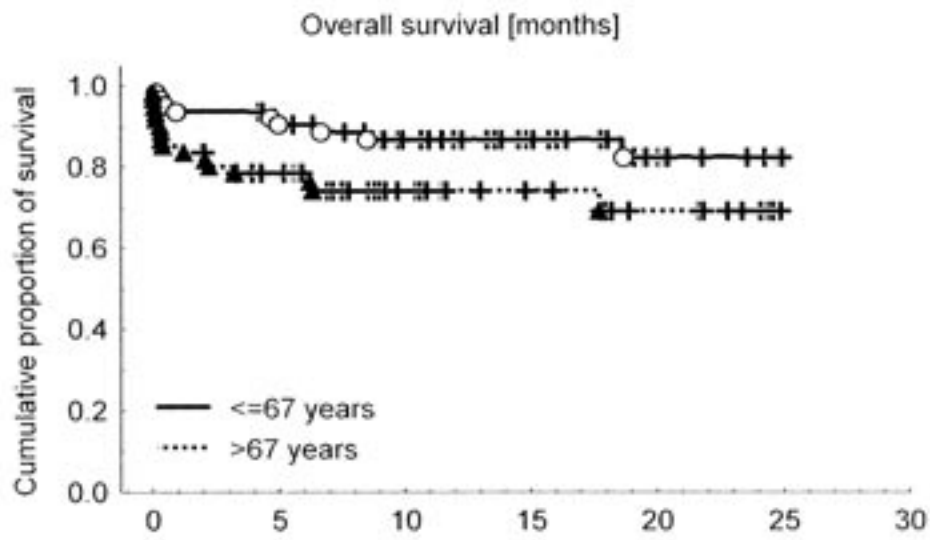

Fig. 5
Survival rate in patient's age dependence, N = 125, p = 0.053

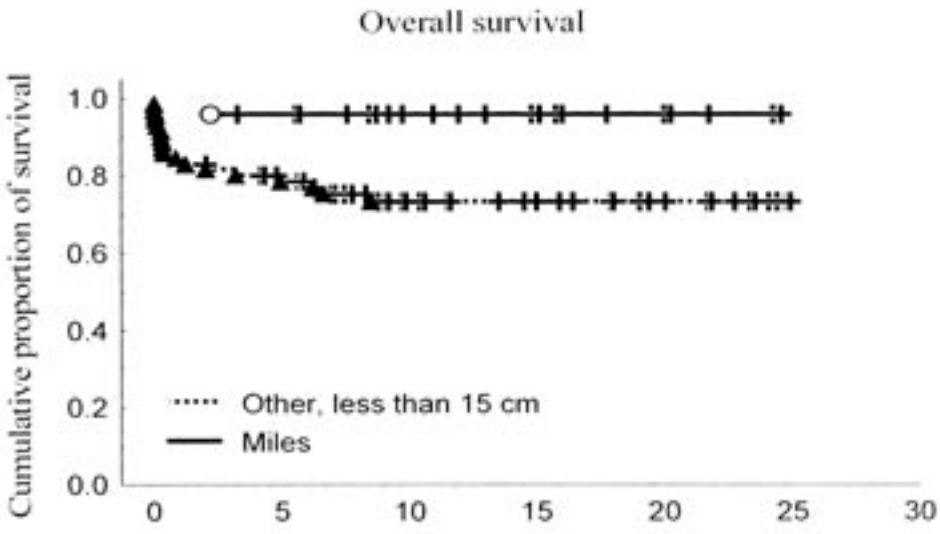

Fig. 6
Operation methods used for affections of up to 15 cm from anocutaneous borderline, N = 37, p = 0.019

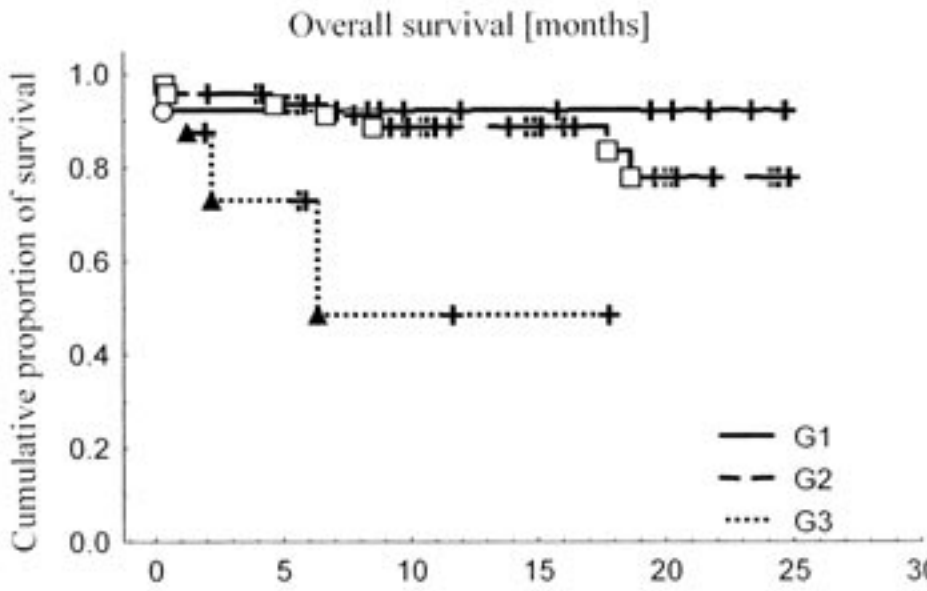

Fig. 7
Survival rate in the grade dependence, N = 70, p = 0.077

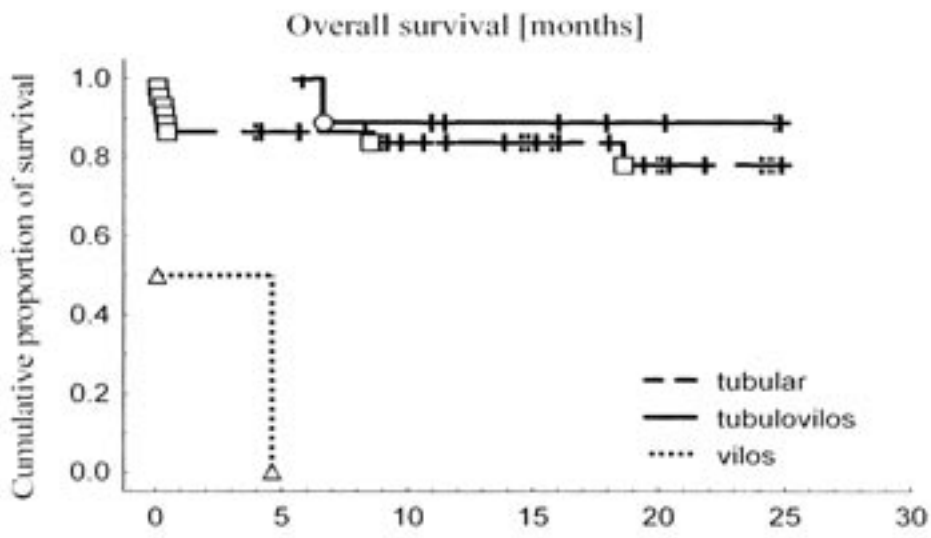

Fig. 8
Survival rate in the histological type dependence, N = 56, p = 0.006

A c k n o w l e d g e m e n t

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VÝSLEDKY SOUČASNÉ LÉČBY NÁDOROVÝCH ONEMOCNĚNÍ TLUSTÉHO STŘEVA A REKTA NA I. CHIRURGICKÉ KLINICE – STATISTICKÁ ANALÝZA

S o u h r n

Cílem bylo hodnocení chirurgické léčby nádorových onemocnění tlustého střeva a rekta na I. chirurgické klinice FN u sv. Anny v Brně.

Retrospektivní analýza dat od 147 pacientů operovaných na I. chirurgické klinice v období 1.1.2000 – 13.9.2001. Byly hodnoceny parametry související s touto chorobou dostupné ze záznamu o hospitalizaci (věk, pohlaví, diagnostika, terapie, staging, grading, apod.). Statistické zpracování a výpočet pravděpodobné doby přežití KM- metodou bylo postoupeno k řešení statistickému centru.

Mužů 66 %, průměrný věk všech pacientů 65,62 ± 12,47 let, typy operací – radikální 74,1 %; paliativní 25,2 %; probatorní 0,7 %. Pacientů v 1. stadiu 6,8 %, ve 2. stadiu 36,7 %, ve 3. stadiu 24,5 %, ve 4. stadiu 22,5 %, stadium nezaznamenáno 1,4 %.

Přežití ve IV. stadiu choroby je výrazně horší oproti ostatním stadiím. V naší studii jsme prokázali, že radikální operační výkon je v současné době nejlepší používanou metodou léčby nádorového onemocnění tlustého střeva a rekta. Včasná diagnóza má rozhodující význam pro prognózu onemocnění.

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