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Total colectomy in older patients with acute malignant obstruction of the left-sided colons

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ABSTRACT

Objective: The older population is one of the fastest growing segments of Serbian society. The aging population is also present in developed countries. Demographics the oldest region in the world is Europe. Serbia by the number colorectal cancer suffering among the countries with high risk of disease. In 2006. the number of new cases was around 4 000. **Methods:** In study retrospective review of 81 patients with malignant obstruction of the left-sided colon, where it underwent a total colectomy. Symptoms and signs of acute obstruction of the left-sided colon are complemented with radiological examination in all patients. The compulsory part of the preoperative examination digitorectal exam how to assess the function of the sphincter apparatus in terms of continence, and to view the rectum and the exclusion of the tumor. In poorly functioning sphincter apparatus was performed Hartmann´s procedure, in order to avoid postoperative incontinence. **Results:** The primary anastomosis rate of 81% in the elderly and 83% of younger patients. In younger group 31 patients underwent a total colectomy with anastomosis and 6 total colectomy with end ileostomy. In older group there were 36 total colectomy with anastomosis and 8 with total colectomy with end ileostomy. Anastomotic leak occurred in 4 patients of elderly group and 2 patients in the younger group. Mortality (30 d) in the older group was 3 patients who had ASA IV, and younger group 2 patients (1 patient ASA III, 1 patients ASA IV). Of the 3 patients died from the older group, 2 patients were end ileostomy. **Conclusions:** Emergency resection and primary anastomosis for left-sided colon carcinoma can be performed with favorable outcome in the elderly. Years of age are not a decisive prognostic factor in colorectal surgery. The surgeon has a duty of careful selection of patients for resection with anastomosis for malignant obstruction of the left-sided colon, with adequate preoperative preparation and postoperative monitoring.

1. Introduction

The older population is one of the fastest growing segments of Serbian society. Population aged 65 years or more since 1950. to date increased 3,6 times (348 000 to 1 270 000). At the same time increased the proportion of this age group in the general population and 2008. amounted to 17.2%, which puts Serbia on high 5th place at the aged population in Europe[1-3].

The aging population is also present in developed countries. Demographics the oldest region in the world is Europe. In Europe, the oldest population of Italy (20.1% of those aged 65 and over) and Germany (19.9%)[4].

Annual worldwide from colorectal cancer are diagnosed about a million people, about half a million die. In the United States per year are detected about 150 000 patients with carcinoma of the colon, while the same disease died about 50 000 people[5]. Serbia by the number colorectal cancer suffering among the countries with high risk of disease. In 2006. the number of new cases was around 4 000. By the number of patients in Europe, Serbia is 26th place for men and 28th for women. By the number of deaths in the Serbian 6th place for men and 7th place for women. This is an indicator of high mortality rates and late detection of cancer[1].

With the extension of life expectancy, the greater the number of patients will have colorectal cancer[6,7].

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The most common complication of colorectal cancer is obstruction. Some studies show the safety of elective resection of colorectal cancer in elderly patients, where risk can be assessed preoperatively surgery. In emergency situations, operative mortality remains high in the elderly compared to younger, especially with resection and primary anastomosis[8,9].

This paper presents our results of emergency resection in patients older than 65 years who had acute malignant obstruction of the left-sided colon.

2. Material and methods

In a study review three years results of the Clinic for Abdominal, Endocrine and Transplantation Surgery in Novi Sad was operated on 81 patients with malignant obstruction of the left colon, where it underwent a total colectomy. Symptoms and signs of acute obstruction of the left colon are complemented with radiological examination in all patients. In unclear situations colonography was performed with barium-sulfate.

The compulsory part of the preoperative examination digitorectal exam how to assess the function of the sphincter apparatus in terms of continence, and to view the rectum and the exclusion of the tumor. In poorly functioning sphincter apparatus was performed by Hartmann's procedure, in order to avoid postoperative incontinence.

A prerequisite for total colectomy surgical team is experienced in dealing with emergency left colonic obstruction.

Total colectomy was defined as resection of the ileocecal valve to the level of variable boundaries between the rectum and the iliac colon. The term iliac colon is part of a colon that begins in the rectum above the level of S2 vertebra, and passes into the sigmoid colon to sacral promontory. Iliac colon and mesentery has a length of 6-8 cm[10].

All patients underwent surgery within 24 h after admission, and preoperative preparation included the following: correction of electrolyte imbalances, acid-base imbalances, anemia and blood glucose levels, kidney function, hemostatic mechanism, use antibiotics (cephalosporins and metronidazole), nasogastric tube placement, preparation of the distal colon (enema), and adequate treatment of comorbid conditions (cardiac, pulmonary, renal, metabolic ...).

Shock is defined when the systolic blood pressure less than 90 mmHg. Septic shock is defined as a shock associated with a temperature higher than 38.4 ℃ or lower than 36.1 ℃.

We analyzed the following: gender, age, ASA (American Society of Anesthesiologists), formation of anastomoses, joint surgery, morbidity and mortality. Each resected colon was viewed histologically. The studies excluded patients who had rectal cancer.

3. Results

This paper was presented retrospectively 81 patients with malignant obstruction of the left colon. There were 37 patients younger than 65 years, average 62 years, of which 22 men and 15 women. Patients older than 65 years was 44, average 68 years, of which 24 men and 20 women.

ASA score in patients younger than 65 years was: 2 patients with ASA II, 32 patients with ASA III and 3 patients with ASA IV. In the group of patients older than 65 years ago there were 36 patients with ASA III and 8 patients with ASA IV.

In younger group 31 underwent a total colectomy with anastomosis and 6 total colectomy with end ileostomy. In older group there were 36 total colectomy with anastomosis and 8 with total colectomy with end ileostomy.

Table 1
Demographic data.

Groupe		<65	>65
Average age		62	68
Number pts		37	44
Male		22	24
Female		15	20
ASA score	II	2	0
	III	32	36
	IV	3	8
Type of operation	TAC + anastomosis	31	36
	TAC + ileostom	6	8

Mortality (30 d) with a group of 3 patients who had ASA IV, while in the younger group 1 patient was an ASA III and 1 patients was ASA IV. Of the 3 patients died from the older group, and 2 were with end ileostomy (Table 2).

Table 2
Mortality (30 d).

Group	Mortality
1	ASA IV, with the TAC ileostomy, exitus 30 h after surgery, more than 65 years
2.	ASA IV, with the TAC ileostomy, exitus 72 h after surgery, more than 65 years
3.	ASA IV, TAC and anastomosis, anastomotic dehiscence, diffuse peritonitis, exitus 10 days after the reoperation, more than 65 years
4.	ASA III, TAC and anastomosis, chronic heart failure, cardiac arrest fourth postoperative day, less than 65 years
5.	ASA IV, TAC and anastomosis, chronic heart salinity, chronic obstructive pulmonary disease, exitus postoperative day 7, less than 65 years

Clinically relevant postoperative complications occurred in 17 patients (21%). In the group of patients younger than 65 years was one anastomotic fistula, 1 dehiscence anastomosis, 3 wound infections and 1 wound infection with peripheral vein phlebitis of the upper extremities. In patients older than 65 years ago there were 3 patients with clinically verified anastomotic fistula, 6 patients with wound infection and 1 patient with wound infection and prolonged postoperative ileus.

Table 3

Complications_Group	<65	>65
Fistula of anastomosis	1	3
Dehiscence of anastomosis	1	1
Wound infection	3	6
Wound infection + phlebitis (arm)	1	0
Wound infection + prolonged ileus	0	1

Table 4

Associated surgery-group	<65	>6
Splenectomy	2	3
Partial resection of the left diaphragm	1	0
Partial gastric resection	1	0
Partial resection of bladder	0	1
Distal pancreatectomy + left nephrectomy	0	1
Left adnexectomy	0	1

During the performance of total colectomy by 9% (n=10) patients were performed and the associated operations, the local infiltration surrounding organs. It is usually performed splenectomy (n=5). One patient was performed with total colectomy resection of the pancreatic tail and left nephrectomy (Table 4).

During surgical exploration of the macroscopic and palpation identified 11 patients (13%) of the existence of metastases in the liver, 5 and 6 in younger patients, older than 65 years.

4. Discussion

In the treatment of acute malignant obstruction of the left colon, in older patients, it is necessary to evaluate the risks that could affect the final outcome and profit from surgical treatment. Patients in their seventh decade, burdened with other comorbid conditions. Since surgeons are expected to approach its treatment and reduce the suffering of these patients because of acute malignant obstruction of the left colon, but and other comorbid conditions. Not always possible curable resection. So the next curable resection performed and palliative resection in the elderly, to improve the quality of life, because this group of patients because of the nature of disease and time of the operation (as complicated malignancies) have a worse prognosis than patients who are electively operated.

Traditionally the treatment of malignant obstruction of the left colon of the three operations is unpopular because of the cumulative morbidity and mortality during repeated anesthesia and surgical exploration, so that this method gives way to other surgical procedures. It is often used Hartmann's procedure by many surgeons in the obstruction of the left colon[6,11]. In the last twenty years, more surgeons to popularize resection and primary anastomosis in selected patients[12-14].

We are in our series had 81 patients with malignant obstruction of the left colon, and all were examined by primary resection. Of these, younger patients were 37 and older 44. In terms of gender distribution was no significant difference. The results show nearly equal use of total colectomy in patients younger and older than 65 years, suggesting the same approach in our treatment does not respect the patient.

Frequently, patients had ASA score of III in the younger group was 32, a group of older 36 such patients. In the group of older patients there were 8 patients with ASA IV, and in whom underwent a total colectomy with end ileostomy. The indication for surgery in these patients was acute abdomen, were identified intraoperatively and irreversible changes (deserozation/perforation) of the right colon, the competent ileocecal valve or dilatation of the colon which compromise vascularization (LaPlace law).

Total colectomy with anastomosis in the group of younger patients was performed in 83% of patients (n=31), while among the elderly in 81% of patients (n=36). Comparing the percentage of the total performance of colectomy with anastomosis, no significant difference between patients older and younger than 65 years. Contrary to our results, some studies emphasize minimal access surgery in elderly patients and patients with enhanced malignancy[15-17]. Our opinion, however, suggests that such patients should be carefully selected and prepared for palliative resection.

The mortality observed in the postoperative period for thirty days is almost identical in both groups. In the group of younger patients, mortality rate 5,5% (n=2), a group of older 6% (n=3) and no statistically significant differences. From a total of 5 patients who died within 30 postoperative days, 4 had ASA score IV. In all patients the indication for surgery was an urgent laparotomy due to acute obstruction of the left colon with the clinical picture of acute abdomen. In these patients, preoperative preparation is shortened because of the poor general condition. Intraoperatively observed changes dictated the extent of resection.

The outcome of surgical treatment has a major impact comorbid conditions, particularly cardiovascular and pulmonary status. Using adequate preoperative nutritional support, the progress of anesthesia and postoperative quality monitoring in the intensive care unit (better antibiotics, postoperative pain control and vomiting, pulmonary physiotherapy, cardiac support), the importance of these states is now smaller[18-20]. More important for the outcome is a general physiologic status, but the age of surgically treated patients[21].

Fistula was verified clinically and treated conservatively in 1 patient in the younger group and 3 patients in the group

of patients older than 65 years. Anastomotic dehiscence was observed in one patient in each group. The most common complications in our patients were wound infections, which required the extension of hospitalization, antibiotic treatment and adequate support. Anastomosis complications were not significantly higher in older patients than in the group of younger patients, and our results are similar to other published series[22,23]

In our series, in both groups were patients with a total colectomy and primary anastomosis performed additional resection of the affected organs (Table 4). Colorectal cancers tend to spread to adjacent organs[21]. The local aggressiveness of colon cancer, delay in diagnosis and urgent surgical exploration have an impact on morbidity and mortality increase[24].

In conclusion we may say that the outcome of treatment in emergency colon resection with primary anastomosis, the more influence they have associated diseases, rather than age. Age are not a decisive prognostic factor in colorectal surgery. The surgeon has a duty of careful selection of patients for resection with anastomosis. Patients with primary carcinoma of the left colon will request adequate preoperative preparation and full postoperative monitoring.

Conflict of interest statement

The authors declare that there are no conflicts of interest.

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