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Original article

Feasibility of surgical treatment in octogenarian patients with colorectal cancer[☆]

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ABSTRACT

Objective: this study aims to compare the profile of octogenarian individuals with colorectal cancer and those younger than 80 years of age regarding gender distribution, mean age of patients, length of hospital stay, type of surgery performed and postoperative complications. **Methods:** this study was carried out at the Coloproctology Department of Hospital Felício Rocho, Belo Horizonte, state of Minas Gerais, Brazil. We evaluated 438 patients with colorectal cancer undergoing curative surgery as disease treatment. Data was collected using specific guidelines established by the health care team during a clinical meeting. This is a descriptive and retrospective study that compared the profile of 52 octogenarian patients (Group I) and 386 patients younger than 80 years (Group II).

Results: the female gender predominated in group I with 69%, whereas the distribution between genders was similar in group II, with 50.3% of women. Mean age in group I was 84.5 years. The mean hospital stay was 8.25 days for patients younger than 80 years and 9.3 for the octogenarians. Group I had a complication rate of 28.84%, while in Group II it was 22.02%. **Conclusion:** age older than 80 years does not contraindicate colorectal surgery.

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Viabilidade do tratamento cirúrgico em pacientes octagenários portadores de câncer colorretal

RESUMO

Objetivo: este trabalho pretende comparar o perfil de pessoas octagenárias portadoras de CaCR com aquelas com idade inferior a 80 anos, no que diz respeito à distribuição por sexo, idade média dos pacientes, tempo de internação hospitalar, tipo de cirurgia realizada, complicações pós-operatórias.

Métodos: este trabalho foi desenvolvido pelo Serviço de Coloproctologia do Hospital Felício Rocho, Belo Horizonte - MG, Brasil. Foram avaliados 438 pacientes portadores de Câncer

Palavras-chave:

Cirurgia

Câncer colorretal

Idosos

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Colorretal submetidos a procedimento cirúrgico como medida curativa para a doença. Os dados foram coletados através de protocolo específico criado pela equipe em reunião clínica. Trata-se de um estudo descritivo e retrospectivo que comparou o perfil de 52 pacientes octogenários (Grupo I), com 386 de idade inferior a 80 anos (Grupo II).

Resultados: o sexo feminino predomina com 69% no grupo I, já no grupo II a distribuição foi semelhante, com 50,3% de mulheres. A idade média do grupo I foi de 84,5. O tempo médio de internação foi de 8,25 dias para pacientes mais jovens e de 9,3 para os octogenários. O grupo I apresentou taxa de complicações de 28,84%, enquanto o Grupo II de 22,02%.

Conclusão: idade superior a 80 anos não contraindica cirurgia colorretal.

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Introduction

The elderly are defined by the World Health Organization as individuals aged ≥ 65 years and this population has progressively increased due to advances in medical treatments and prevention programs. Thus, the median age of the population has steadily increased, in recent decades, to over 80 years in developed countries. One consequence of increased survival is that more elderly individuals will become candidates for surgical procedures. The decrease in physiological reserves, the coexistence of diseases and functional limitations due to age make the anesthetic and surgical procedures in this population a potentially higher risk when compared to the younger population.

Considering that it is precisely in this phase of life that there is a greater risk of developing cancer, the need to perform interventions in this group of individuals has become increasingly more common. Colorectal cancer (CRC) is the fourth most commonly diagnosed disease and the third leading cause of death from cancer in the United States and thus, consistent with the world's aging population, it is necessary to offer alternative treatments for advanced age patients. Therefore, this study aims to compare the profile of octogenarian individuals with CRC and those younger than 80 years regarding gender distribution, mean age of patients, length of hospital stay, type of surgery and postoperative complications.

Methods

This study was carried out by the Coloproctology Service of Hospital Felício Rocho, Belo Horizonte, state of Minas Gerais, Brazil. A total of 438 patients with colorectal cancer undergoing curative surgery as disease treatment were evaluated. Data were collected using specific guidelines set by the health care team during a clinical meeting. This is a descriptive and retrospective study that compared the profile of 52 octogenarian patients (Group I), with 386 patients younger than 80 years (Group II). Data were analyzed using tables and Excel 2007 spreadsheets. Fisher's exact test was used for statistical analysis. The study was approved by the Ethics Committee in Research of the institution and was carried out in accordance with the required ethical standards.

Results

The study population comprises 438 patients submitted to colorectal surgery between the years 2007-2011. Group I, represented by octogenarian individuals, has 52 patients, equivalent to 12% of the total number, of both genders. Group II consists of 386 people younger than eighty years of age, of both genders, which comprises 88% of the total number. Age varied in the group representing the younger patients and ranged between 28 and 79 years, with a mean of 59.7 years.

For Group II, age varied between 80 and 92 years, with a mean age of 84.5 years. The population distribution by gender showed that in Group I the absolute value of women was 36, whereas men totaled 16, 69% and 31% respectively. On the other hand, Group II included 192 women and 194 men, 49.7% and 50.3% of the total, respectively (Table 2). Regarding hospitalization, the mean length of hospital stay for patients aged < 80 years was 8.25 days, while patients aged > 80 years were hospitalized for 9.3 days.

As for postoperative complications in the two groups, it was observed that in Group I, the complication rate was 28.84%, whereas in group II it was 22.02%, with $p = 0.23$. The types of surgery performed in the service during that period were quantitatively analyzed. Right colectomy was the most prevalent, accounting for 39% in the octogenarians and 25% in the other group. Left colectomy and mesorectal resection were the second and third most prevalent types in both groups (Table 1). Regarding the most frequent complications in group I when compared with group II, sepsis was the most common, with 7.7% and 4.4%, respectively, $p = 0.39$; adynamic ileus in 5.8% and 6.0% $p = 0.95$; and pneumonia in 5.8% and 0.8% for each group, with $p = 0.12$. The following complications showed statistical significance for age > 80 years: wall abscess, neurogenic bladder, peritonitis, fistula and intra-abdominal abscess. These events were not detected in group I (Table 2).

Discussion

The present study evaluated 438 patients submitted to colorectal surgery for 5 years in the Coloproctology Service of Hospital Felício Rocho. To compare the profile of octogenarian patients with those younger than eighty years, five criteria were analyzed, compared among them and with the lit-

erature concerning the subject. Elderly individuals older than eighty in the year 2000 comprised 9.2 million individuals in the United States. The estimate is that this number will reach in 2030 19.5 million individuals and, in 2050, 34 million individuals, i.e., 8% of the US population.^{1,2,4} Colorectal cancer is the third most common in the general population. This fact, together with the aging population, results in a tendency to increase the number of identified cases with good therapeutic possibilities.

Surgical treatment is the main curative alternative for this disease. Therefore, an evaluation of the status of elderly patients, particularly in the surgical scenario, aims to provide greater longevity with quality of life. Twelve percent of the analyzed subjects were older than eighty, with a predominance of females. These data are in accordance with the latest census, which showed that life expectancy of women is higher than that of men by approximately seven years (Brazilian Institute of Geography and Statistics - IBGE 2011).

When comparing length of hospital stay between group I and group II, similar values can be observed: for the first, the mean time of 8.25 days was lower, but not statistically significant, $p > 0.05$. This shows that the mean length of stay does not reflect problems associated with age.^{2,5}

Some studies have shown that elderly patients submitted to laparoscopic surgery due to malignant neoplasms

of the colon would benefit from the method as it is less traumatic and demands less surgical time. But in this case, the reference centers have a greater learning curve for the laparoscopic technique, which was not emphasized in this study, although the service has experienced professionals in this area.

When analyzing the rate of complications in Group I, it was 28.84% against 22.02% in group II, $p = 0.23$ (Table 2). It can be concluded that surgical procedures should not be contraindicated in elderly individuals due to the fear of a higher complication rate, as there is no statistical significance to demonstrate that. The major complications were sepsis (7.7%), abdominal wall abscess (5.8%) and fistula (2.8%) (Table 3).

These types of complications are in agreement with the literature. According to a study by Angello Peloni *et al.*, who evaluated 300 patients undergoing colorectal surgery, the major complications were lung infection in 2.66% of cases, followed by sepsis, parietal abscess and paralytic ileus, all corresponding to 2% each. Enteric fistulae corresponded to 1.2% of the complications.^{6,7,8}

The group of octogenarians did not have wall abscess or fistula, with $p < 0.05$. The fact is significant and reinforces the theory that being older than eighty years does not worsen the prognosis in these two aspects. Group I and Group II both showed no difference regarding the two main complications, sepsis and ileus, which demonstrates that being older than 80 years is not a bad prognostic factor when considering only age as an isolated factor.^{9,10,11}

Table 1 – Type of surgery performed.

Type of surgery	> 80 years	< 80 years	Total
Total mesorectal excision	8 15%	54 14%	62
Coloanal anastomosis	0 --	10 2,75%	10
Low anterior resection	0 --	13 3%	13
High anterior resection	10 19%	47 12%	57
Anterior resection with stapler	2 4%	41 11%	43
Abdominoperineal amputation	3 6%	29 7%	32
Endoanal pull-through	0 --	1 0,25%	1
Right colectomy	20 39%	96 25%	116
Left colectomy	9 17%	53 14%	62
Total colectomy	0	18 4%	18
Colostomy	--	0	0
Ileostomy	--	3 1%	3
Others	--	21 6%	21

Table 2 – Postoperative complication rate.

	Postoperative complications
Group I	30.95%
Group II	19.62%
	$p = 0.23$

Table 3 – Occurrence of complications per age range.

	Age < 80 years			Age > 80 years			P value
	n	%	Total	n	%	Total	
Ileum	23	6.0%	386	3	5.8%	52	0.956
Sepsis	17	4.4%	386	4	7.7%	52	0.392
Wall abscess	15	3.9%	386	0	0.0%	52	0.000
Neurogenic bladder	6	1.6%	386	0	0.0%	52	0.014
Peritonitis	6	1.6%	386	0	0.0%	52	0.014
Fistula	11	2.8%	386	0	0.0%	52	0.001
SIRS	8	2.1%	386	1	1.9%	52	0.942
Intra-abdominal abscess	4	1.0%	386	0	0.0%	52	0.044
Pneumonia	3	0.8%	386	3	5.8%	52	0.126
Evisceration	3	0.8%	386	0	0.0%	52	0.082
Atrial fibrillation	2	0.5%	386	2	3.8%	52	0.216
Urinary fistula	2	0.5%	386	0	0.0%	52	0.156
Atelectasis	2	0.5%	386	1	1.9%	52	0.469
AMI	1	0.3%	386	1	1.9%	52	0.387
Hematoma	1	0.3%	386	0	0.0%	52	0.317
Vomiting	2	0.5%	386	0	0.0%	52	0.156
Ischemia	4	1.0%	386	1	1.9%	52	0.653
Anal bleeding	1	0.3%	386	0	0.0%	52	0.317
Perineal dehiscence	1	0.3%	386	0	0.0%	52	0.317
Hypertensive crisis	2	0.5%	386	0	0.0%	52	0.156
PTE	1	0.3%	386	0	0.0%	52	0.317
Hypovolemia	0	0.0%	386	2	3.8%	52	0.149
Phlebitis	0	0.0%	386	1	1.9%	52	0.313
UTI	0	0.0%	386	1	1.9%	52	0.313
ARF	0	0.0%	386	1	1.9%	52	0.313

Conclusion

Considering that colorectal tumors are the third most prevalent cancer type in the general population, they should be well understood and adequately treated. With the progressive aging of the world's population, octogenarian individuals increasingly require surgical treatment with curative purpose. The main surgical complications detected showed no statistical significance that would contraindicate surgery in the octogenarian group. This study concludes that age ≥ 80 does not worsen the prognosis for patients undergoing colorectal surgery, as it does not increase length of hospital stay and therefore, does not generate deficits or losses to the health system.

Conflicts of interest

The authors declare no conflicts of interest.

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