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Original Article

Colonoscopic findings in patients aged 50 years and older: a critical analysis of 1614 exams

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ABSTRACT

Introduction: Colonoscopy has shown to be useful in the diagnosis of various pathologies. By allowing the direct visualization of the mucosa, colonoscopy allows the adoption of therapeutic methods, such as the removal of polyps, dilation of stenoses, and biopsies. This method can also be applied in the detection of colorectal cancer, which currently represents an important cause of mortality in the world. Individuals considered to be at medium risk for the development of colorectal cancer should start screening at 50 years of age in order to detect early disease.
Objective: To describe the main results of the exams for patients at least 50 years old who underwent colonoscopy.
Method: Descriptive, case-series study of 1614 colonoscopies performed from 2014 to 2017 at a referral hospital in Salvador, Bahia.
Results: The main indications for the study were intestinal bleeding (26.5%), neoplasia screening (20.7%), and abdominal pain (10.2%). The main results were diverticular disease (38.9%), polyps (38.8%), and normal examination (23.2%). Patients with indications for neoplasia screening had the presence of polyps (41.3%) as their main diagnosis. For patients with normal examination, 28.8% presented intestinal bleeding as an indication. There were 70 (4.3%) patients with a colonoscopic diagnosis of neoplasia.
Conclusion: The present study, which demonstrated a majority of exams with considerable alterations, shows the usefulness of the examination, besides other advantages, as a form of diagnosis of colorectal cancer.

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Achados colonoscópicos em pacientes a partir dos 50 anos: uma análise crítica de 1.614 exames

Palavras-chave:
Câncer colorretal
Colonoscopia
Endoscopia digestiva
Rastreio
Sangramento intestinal

RESUMO

Introdução: A colonoscopia mostra-se útil no diagnóstico de diversas patologias. Ao permitir a visualização direta da mucosa, possibilita a tomada de medidas terapêuticas, como a remoção de pólipos, dilatação de estenoses e realização de biopsias. Tal método pode ser empregado também no rastreio do câncer colorretal, que atualmente representa importante causa de mortalidade no mundo. Os indivíduos considerados de médio risco para o desenvolvimento do câncer colorretal, devem iniciar a triagem a partir dos 50 anos de idade, a fim de detectar precocemente a doença.

Objetivo: Descrever os principais achados e indicações dos exames daqueles pacientes que realizaram colonoscopia com idade ≥ 50 anos.

Método: Estudo descritivo, em série de casos, referente a 1.614 colonoscopias realizadas no período de 2014 a 2017 em hospital de referência em Salvador, BA.

Resultados: As principais indicações para realização do exame foram sangramento intestinal (26,5%), rastreio de neoplasia (20,7%) e dor abdominal (10,2%). Os principais resultados encontrados foram doença diverticular (38,9%), pólipos (38,8%) e exame normal (23,2%). Os pacientes com indicação de rastreio de neoplasia tiveram como principal achado, a presença de pólipos (41,3%). Dos pacientes com exame normal; 28,8% apresentaram sangramento intestinal como indicação. Houve 70,0 (4,3%) pacientes com diagnóstico colonoscópico de neoplasia.

Conclusão: O presente estudo, ao demonstrar uma maioria de exames com alterações consideráveis, evidencia a utilidade do exame, além de outras vantagens, como uma forma de diagnóstico do câncer colorretal.

Introduction

The implementation of optical fibers in the medical field allowed a significant technological advance in the direct observation of the digestive tract[1] through flexible endoscopes that were originally intended for the upper digestive tract; its use in the gastrointestinal tract was extended through colonoscopy.

The benefits of colonoscopy over other methods of investigation include the fact that, in addition to allowing the direct visualization of the colonic mucosa and often of the terminal ileum,[2] it is considered an effective diagnostic and therapeutic method, presenting significant results in the assessment of polyps and neoplasias.[3]

Colonoscopic examination allows early identification of lesions in individuals in at-risk groups, investigates signs and symptoms (such as chronic diarrhea, digestive bleeding, anemia of unknown cause, and altered bowel rhythm), allows macroscopic evaluation of lesions, and allows biopsies to be performed. From a therapeutic perspective, it is possible to remove polyps, dilate stenoses, apply medications and clips to control hemorrhages, and mark lesions (also termed tattooing) to guide future surgery.[4]

Colorectal cancer (CRC) is an important cause of morbidity and mortality in Western populations.[5] INCA estimates that the number of new cases in 2018 in Brazil is 36,360, of which 17,380 are men and 18,980 are women; it represents the fourth most frequent type of cancer in the North and Northeast regions.[6] CRC onset, which progresses slowly, usually originates from a modification of the usual colonic epithelium to an adenomatous polyp and, subsequently, to cancer.[5]

A colonic polyp is a protuberance in the intestinal lumen that originates from the mucosa; it is usually asymptomatic, but it can present as tenesmus or bleeding, and depending on its size, it may evolve to intestinal obstruction, especially when located in the rectum.[7]

Objectives

To describe the main findings and indications for the exam in patients aged ≥50 years who underwent colonoscopy.

Methods

In this case series study, 1614 colonoscopies were assessed. Inclusion criteria: patients aged ≥50 years who underwent colonoscopy from January 2014 to June 2017. Exclusion criteria: patients with incomplete reports in the variables age and origin, totaling 22 reports.

The colon was prepared using 10% mannitol. Patients underwent sedation at the discretion of the anesthesiologist. For the polypectomies, cold biopsy forceps were used for small lesions (<5 mm), while oval-shaped polypectomy loops were

Table 1 – Main indications for the exams in patients aged ≥50 years who underwent colonoscopy at a referral hospital in the state of Bahia (*n* = 1614).

Indications	*n*	(%)
Intestinal bleeding	428	26.5%
Neoplasia screening	334	20.7%
Abdominal pain	164	10.2%
Obstipation	133	8.2%
History of polyp	128	7.9%
Diarrhea	105	6.5%
Inflammatory bowel disease	100	6.2%
Weight loss	66	4.1%
Anemia of unknown origin	49	3.0%
Changes in bowel habits	40	2.5%
History of neoplasia	30	1.9%
Intestinal transit reconstruction	21	1.3%
Proctalgia/anal pain	19	1.2%
Late post-operative period	16	1.0%
Fecal occult blood	14	0.9%
Colectomy/rectosigmoidectomy	13	0.8%
Liver nodules	12	0.7%
Rectal/anal canal injury	12	0.7%
Megacolon	12	0.7%
Abdominal mass	10	0.6%
Actinic proctitis	10	0.6%
Others	100	6.2%

Source: Study data (2017).

Table 2 – Main findings in patients aged ≥50 years who underwent colonoscopy at a referral hospital in the state of Bahia (*n* = 1614).

Results	*n*	(%)
Diverticular disease	628	38.9%
Polyps	626	38.8%
Normal	374	23.2%
Angioectasia	75	4.6%
Neoplasia	70	4.3%
High lesion	63	3.9%
Ulcerative colitis	62	3.8%
Inflammatory alterations	62	3.8%
Ulcerated lesion	61	3.8%
Portal hypertensive colopathy	48	3.0%
Colectomy	40	2.5%
Varicose veins	32	2.0%
Anastomosis	26	1.6%
Crohn's disease	22	1.4%
Lipoma	22	1.4%
Actinic proctitis	22	1.4%
Inconclusive findings	19	1.2%
Vegetative lesion	16	1.0%
LST	15	0.9%
Proctitis due to disuse	14	0.9%
Others	120	7.4%

Source: Study data (2017).

used for pedicled lesions >5 mm. The colonoscopic examination was considered complete when it reached the cecum or terminal ileum.

The study was approved by the Research Ethics Committee. The full confidentiality of the identity of the participating patients was ensured. The study protocol did not pose a risk to the patients involved, nor did it place them in a disadvantageous position, as it was based on the assessment of colonoscopy reports, without direct contact with the patients; for that reason, the need for an informed consent was waived.

The following variables were analyzed: age, sex, origin, reason for colonoscopy, exam conditions, and exam results.

In the descriptive statistics, absolute and relative frequencies were used for nominal variables. Numerical variables were assessed using means and standard deviations.

Results

A total of 1614 patients aged over 50 years were analyzed. The mean age was 63.94 years, with a standard deviation of 9.48 years. A higher incidence of the female sex was observed, representing 58.5% (945) of the total, while the male sex accounted for 41.5% (669) of the patients. For the oldest patient, aged 95 years, colonoscopy was indicated due to the presence of intestinal bleeding; the examination was considered to be normal. Regarding the origin of the patients, 84.5% (1364) were referred to this hospital, and only 15.5% (250) came from outpatient clinics or internal emergency. The exams were considered complete when reached the cecum or terminal ileum, corresponding to 90.3% (1453) patients. Exam conditions were classified as good, fair, poor, and very poor; 91.5% (1474) had good conditions and only 1.6% (25) presented very poor conditions for colonoscopy.

The main indications for colonoscopy are listed in Table 1. The most prevalent was the presence of intestinal bleeding in 26.5% (428) of the patients.

The main colonoscopic findings are listed in Table 2; the most common was the diagnosis of diverticular disease, observed in 38.9% of the patients. Other findings, such as megacolon, stenosis, substenosis, micronodules, and extrinsic compression accounted for 7.4% (120) of the cases.

Among the 626 patients who presented polyps, 26.4% (165) had the presence of intestinal bleeding as an indication, and 22.0% (138), CRC screening. Polypectomies were performed in 93.3% (584) of all patients with polyps. The most common location of the polyps was the sigmoid colon (37.7%; 235), followed by the rectum (26.7%; 167), transverse colon (23.8%; 149), and descending colon (18.8%; 118).

Of the patients who underwent colonoscopy for CRC screening (334), the majority presented the diagnosis of polyps (41.3%; 138), followed by diverticular disease in 38.3% (128); only 2.4% (8) had a colonoscopic diagnosis of neoplasia.

Among the 70 patients with a colonoscopic diagnosis of neoplasia, 60% (42) were female and 40% (28) were male. For 20 (28.6%) of these patients, colonoscopy was indicated due to the presence of intestinal bleeding.

Of the patients who did not present any alteration to the examination, 374 reports, 28.8% (90) the presence of intestinal bleeding as an indication, as shown in Table 3.

As complication of the procedure, one patient (0.06%) had colon perforation and required emergency surgical treatment.

Table 3 – Main indications associated with normal exams in patients aged ≥50 years who underwent colonoscopy at a referral hospital in the state of Bahia (n = 374).

Results	n	(%)
Intestinal bleeding	90	28.8
CRC screening	82	26.2
History of polyps	26	8.3
Abdominal pain	24	7.7
Obstipation	20	6.4
IBD	17	5.4
Diarrhea	17	5.4
Weight loss	12	3.8
Others	14	14.0

Source: Study data (2017).

Discussion

The present study consisted of a retrospective analysis of 1614 colonoscopic exams, evidencing its importance as a diagnostic method for several colorectal diseases.

A colonoscopy is considered complete when the endoscope runs through the large intestine, reaching the cecum or terminal ileum. As in the study by Clark et al.,[8] in the present study a 90.3% rate of intubation of the cecum was observed, which may or may not have reached the ileum.

Similar to the literature, the study presented more female patients.[3] Culturally, women are more likely to seek healthcare than men, who have greater resistance to procedures such as colonoscopy and rectosigmoidoscopy. This may explain the lower number of men undergoing this exam.

Adequate bowel preparation is an important indicator of the quality of the examination, allowing the visualization of lesions that directly interfere in the diagnosis and prognosis of the patient. The use of an oral 10% mannitol solution is usually effective.[9] In the present study, bowel cleansing was performed with 10% mannitol, and it was observed that 91.5% of the exams presented good exam conditions, which includes the safe conclusion of the procedure and clear visualization of the mucosa.[10] The fact that the intestinal preparation mentioned is performed in the hospital increases the success rate, as the patient is monitored by the in-hospital team.

The main indication for colonoscopy was intestinal bleeding in 26.5% (428) of the patients analyzed, a result that was corroborated by the fact that this is a reference hospital for digestive hemorrhage in the state of Bahia. However, in a study that analyzed 2567 exams, Nahas et al.[2] also observed the presence of rectal bleeding and anemia as main indications. CRC screening in 20.7% (334) of the exams may be partially justified by the age range studied, since in the population at medium risk for CRC development, *i.e.*, those who do not have a personal or family history of polyps, CRC, or inflammatory bowel disease (IBD), the age of colonoscopy screening is 50 years.[11,12]

The diagnosis of diverticular disease and polyps was the most common, with a total of 38.9% (628) and 38.8% (626) of the cases, respectively. A study carried out with 9223 patients in England[10] observed that the main colonoscopic findings were polyps, diverticular disease, and IBD. In the present study, only 5.2% (84) of the patients had a diagnosis of IBD, and 3.8% (62) had unspecified inflammatory alterations.

In the Western world, diverticular disease is one of the diseases that most affects the colon. Despite being mostly asymptomatic, some patients may present symptoms ranging from mild and intermittent cramps to severe abdominal pain associated with intestinal bleeding. Studies indicates that the prevalence increases from 5% in people in their 40s to almost 50% in those over 80 years.[13,14]

The location of the polyps is important both for diagnosis and resection, as ascending colon and cecum polyps may be more difficult to visualize and remove, since they tend to present more fecal matter and deeper hemorrhages, whereas those located in the rectum and proximal colon present a greater chance of complete resection.[15] In the present study, 93% (584) of the patients with polyps underwent polypectomy. Among those who did not, the polyps were located mainly in the sigmoid colon (38.1%; 16), followed by the cecum (26.2%; 11) and descending colon (23.8%; 10).

As it is a very frequent type of cancer, CRC should be diagnosed early; a screening colonoscopy should be performed based on the patient's risk. The prognosis is much better at early stages than at advanced stages.[16] In the present study, eight (2.4%) patients who underwent colonoscopy for CRC screening had a colonoscopic diagnosis of neoplasia.

A systematic review conducted in England with 12 studies and a total of 57,742 patients observed an incidence of 2.8 serious complications (such as perforation, hemorrhage, severe abdominal pain, and death) per 1000 colonoscopies performed.[17] In the present study, one case of intestinal perforation was observed in a patient who had erosive lesions in the colon. This complication represented 0.06% of the population. That patient was then referred for emergency surgery. Complications such as this are uncommon and usually associated with polypectomies, and have decreased with advances in polyp removal.[18]

Conclusion

Colonoscopy is an important exam for the diagnosis of various colorectal diseases; it is also useful for determining the extent of lesions, prudent management, and treatment of various pathologies. The present study demonstrated the usefulness of the exam, as well as other advantages in CRC screening, since patients with this alteration usually require an early diagnosis with specific early intervention.

Conflicts of interest

The authors declare no conflicts of interest.

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