Original Article

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Insight on colonoscopy findings in Southern Iraq: Retrospective study from a tertiary center

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ABSTRACT

Background: Colonoscopy is the most trusted diagnostic tool in the screening and diagnosis of colorectal cancer and other colorectal diseases. **Aim**: This study intends to present the results of colonoscopic procedures carried out in Center for Digestive and Liver Disease and Surgery in Basrah. **Methods**: Retrospective evaluation of 698 consecutive subjects who underwent screening or diagnostic colonoscopy at Basra Center for Liver Disease and Digestive System between 2014 and February 2020 was conducted. The primary outcome measure was the rate of adenoma detection, calculated alternately as the total number of detected neoplastic lesions divided by the number of subjects screened and as the proportion of subjects with at least one neoplastic lesion. The demographic information, presentation, and colonoscopic findings have been reported as frequencies and percentages. **Results**: The study involved 400 (57.3%) male and 298 (42.7%) female subjects, with ages ranging from 1 to 90 years and a mean±SD of 42.3±18.6 years. Cecum access rate was 86.8% (606/698), and 48 (6.9%) out of the 698 participants had malignancy. The adenoma detection rate was 12.3% (87 out of 698 patients). **Conclusion**: In our study, the success rate, which is determined by the rate of cecum access, was relatively lower than the approved standard due to causes related to the patients. Even so, it is higher than that reported in previous studies. The adenoma detection rate was low, which is likely due to the small sample size as the center is in its early inception.

Keywords: colonoscopy, adenoma detection rate, neoplastic lesions

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INTRODUCTION

Colorectal cancer is the third most frequently detected cancer as well as the third most frequent cause of cancer-related mortality.[1]The lifetime risk of developing invasive colorectal cancer is approximately 6% for both men and women.[2] Colon cancer incidence is relatively low in the Arab world. However, in some of the more affluent countries, the incidence is second only to breast cancer.[3,4]

Iraq had a 25% to 50% increase in colorectal cancer incidence between 1965 and 1994, according to a comparative study conducted in the Iraqi Cancer Registry.[5] Colorectal cancer incidence in Iraq at 2.6% in compare while 6%–13% in developed countries and 17%–51.1% in the industrialized nations.[6]

The invention of the colonoscope revolutionized the way we evaluate luminal diseases of the colon. A colonoscopy offers the advantages of detecting cancer

and removing precancerous lesions.[1]Hence, the primary goal of colonoscopy in most instances is the prevention of colorectal cancer-related death.[7]

The adenoma detection rate (ADR) is the proportion of average-risk patients undergoing screening colonoscopy in whom an adenoma or colorectal cancer is found. It is regarded as a strong measure of colonoscopy performance quality, and it correlates with subsequent cancer risk.[8-10]I It is required that adenomas be detected in 25% of men and 15% of women aged 50 or older.[7] Cecal intubation, defined as the process wherein the colonoscope reaches a point proximal to the ileocecal valve with complete visualization of the entire cecum, should be achieved in ≥ 90% of all colonoscopies and in ≥95% of cases for screening colonoscopies. Documentation of reaching this landmark should be confirmed with photography of the cecal landmarks (i.e., appendiceal orifice and ileocecal valve).[7] This quality indicator has been proposed due to the well-known findings that significant colorectal neoplasms is located in the proximal colon, including the cecum.[7] An additional measure that has now been adopted is the disposition of the bowel preparation,[8] which if it is poor ,will be associated with a prolonged cecal intubation time and withdrawal time, as well as a drop off in the detection of polyps overall.[11,12] The ASGE (American Society for Gastrointestinal Endoscopy)/ACG (American Cancer of Gastroenterology) Task Force recommends that a colonoscopy be considered adequate if it detects polyps 5 mm or larger.[12] If inadequate, the colonoscopy should be repeated at a shorter interval, which is left to the discretion of the endoscopist. Recommendations for subsequent care, particularly surveillance interval for post-polypectomy and post-cancer resection, should also be implemented for optimal outcomes.[12] The incidence and prevalence of colorectal neoplasm in several Eastern countries have been increasing in recent decades and are now comparable to the rates seen in Western countries.[13] Mortality rates can be reduced by up to 30% with early diagnosis of colorectal cancer, which ranks second in cancer-related deaths.[14,15]

In this study, our destination is to present the results of colonoscopic procedures applied in Center for Digestive and Liver Disease and Surgery in Basrah .

MATERIALS AND METHODS

This is a retrospective study.

Study Population

The study population consisted of 698 consecutive subjects who underwent screening or diagnostic colonoscopy at Center for Digestive and Liver Disease and Surgery in Basra between November 2014 and February 2020. Subjects were scheduled for colonoscopy during a previous visit to the gastroenterology clinic.

Inaccuracy was unavoidable during data collection due to deficient data recording mainly in 2014–2015 when the center was in its early establishment.

Study Procedures

Board-certified gastroenterologists, all of whom had dedicated, hands-on colonoscopic instruction as part of their fellowship training in gastroenterology, performed the procedures. Endoscopists used adult or pediatric variable-stiffness video colonoscopies.

We used the endoscopic evaluation of lesion detection.

Patients were begun a fluid diet 48 hours beforehand to the procedure and given 45 mL of 1:1 diluted sodium phosphate (Fleet Phospho-soda) orally at 22:00 the day before and 06:00 the day of the procedure. Bowel cleansing was integrated with a sodium phosphate enema, which was applied on the morning of the colonoscopy. Subsequently, 1–5 mg midazolam was given during the process for sedation and 20–50 mg Hyoscine-N-butyl bromide (scopolamine butylbromide) IV was preferred as a spasmolytic. The investigations were executed by the Fujinon colonoscopy device.

Statistical Analysis

The primary outcome measure was the rate of adenoma detection, calculated alternately as the total number of neoplastic lesions detected divided by the number of subjects screened and as the proportion of subjects with at least one neoplastic lesion. The element of study was the doctor, not the topic. The demographic information, presentation, and colonoscopic findings have been reported as frequencies and percentages.

Statistical tests were performed using SPSS software, version 22.0.

RESULTS

A total of 698 patients were enrolled in this study, comprising 400 (57.3%) male and 298 (42.7%) female subjects. The mean±SD age was 42.3±18.6 years, ranging between one year and 90 years (Figure 1).

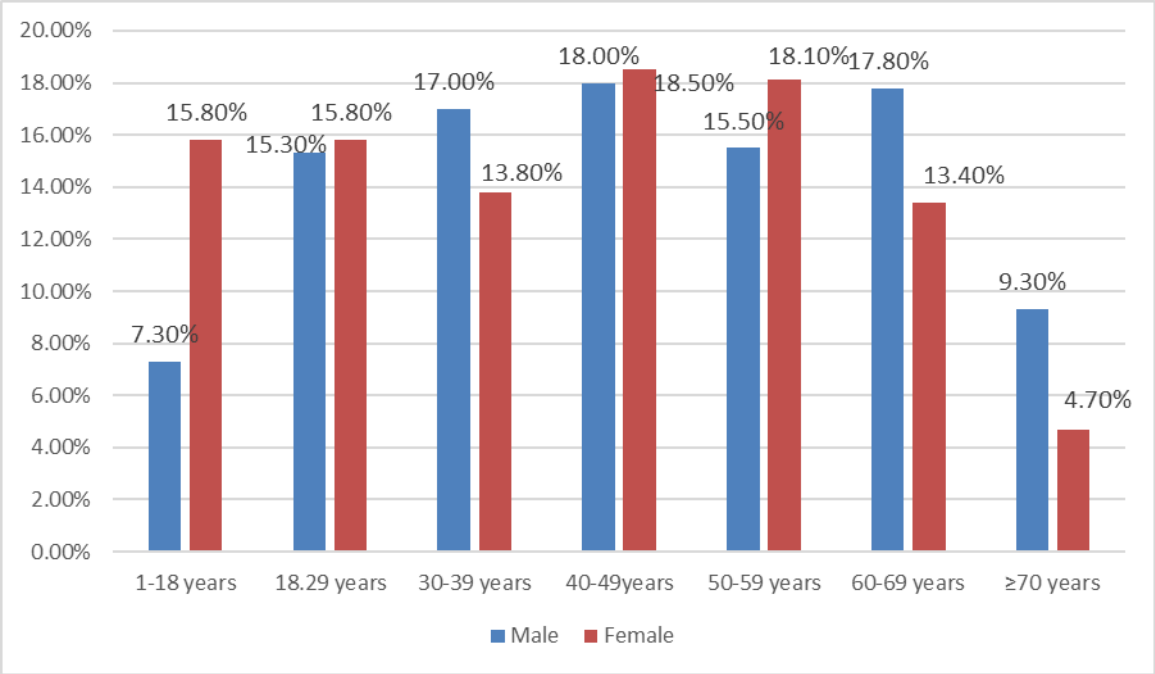

Figure 1: Age to gender distribution of the studied sample.

The cecum access rate was 86.8% (606/698), and the cause for failure in accessing the cecum in 92 patients was poor preparation, in ability to tolerate the procedure, or presence of mass that interfered with the passage of the colonoscope. Classification of patients according to colonoscope indications detailed in Table 1.

Forty-eight (6.9%) out of 698 patients proved to have CRC. Adenoma detection rate was 12.3% (87 out of 698 patients). Other colonoscope findings according to the prevalent diagnosis are shown in Table 2.

Table 1: Classification of patients according to colonoscope indication.

Indication	Number	Percentage
Bleeding per rectum	306	43.8%
Chronic constipation	126	18%
Melena	19	2.7%
Bloody diarrhea	38	5.4%
Iron deficiency anemia	38	5.4%
Lower abdominal pain	29	4.2%
For follow up	18	2.6%
Screening	6	0.9%
Mucus discharge	12	1.7%

Table 2: Classification of patients according to colonoscope findings.

Colonoscope findings	Number	Percentage
Normal	208	29.8%
Adenoma	87	12.3%
Cancer	48	6.9%
Colitis	149	21.3%
Hemorrhoidal disease	166	23.8%
Diverticulosis	10	1.4%
Solitary rectal ulcer	20	2.9%
Finding secondary to previous pelvic radiation	3	0.4%
Telangiectasia	4	0.6%
Angiodysplasia	1	0.1%
Segmental colonic neuromuscular disease	2	0.3%

DISCUSSION

Colorectal neoplasm is a significant health problem associated with high morbidity and mortality in Western countries. According to the Iraq Cancer Registry, colorectal carcinoma incidence was 6.49% of whole body malignancy in 2019.[16]

A recent study has confirmed a high rate of cecal intubation of Endoscopists' colonoscopies.[14] The success rate in our study (which is determined by the rate of cecum access) is (86.7%). Inadequate bowel cleansing, presence of a mass preventing the colonoscope from

navigating, and poor patient compliance were the primary factors responsible for lowering the success rate in our study.

The most troublesome pathology among diseases that cause lower gastrointestinal warning sign is colorectal cancer. Colonoscopy is still the most dependence investigative tool in the screening and diagnosis of colorectal cancer. Studies within Turkey have submitted the incidence of colorectal cancer as 3% in Elazığ and 14.4% in Bursa.[17]In our study, colorectal cancer rate was determined as 6.9% (48 out of 698 subjects). A full colon screening could not be achieved owing to tumor in six of our patients who were deposit a cancer diagnosis. Synchronous tumor incidence in colorectal cancer is known to be different from 2% to 8%.[18]

It is tacit that colon cancers build up from neoplastic adenomatous polyps; thus, even if a single polyp is identified during the evaluation, it is recommended to outlook the whole colon and get rid of the polyp if appropriate.[19] It has been declared that colorectal cancer incidence can be reduced by 76%–90% with this approach.[20] Studies indicate a rate of polyp discovery as high as 20.7%.[21,22] In our study, the percentage of polyp detection was 12.3% (87 patients). Bowles et al.[23] find out typical colonoscopic findings in 42.1% of their patients, whereas our study identified normal findings in 29.8%.

Additionally, findings of 22.5% polyps, 22% diverticula, and 13.9% inflammatory disease have been reported.[24] In our study, 1.4% had diverticulum, 12.3% had inflammatory bowel disease, and 0.1% had angiodysplasia. An additional pathology with baffling pathophysiology and requiring surgical treatment is solitary rectal ulcer, which is illustrate by sole or several rectal mucosal ulcerations.[25] In our series, twenty patients (2.9%) had a solitary rectal ulcer. The most frequent pathologies among colonoscopy outcome are anorectal disorders. Within the group of anorectal diseases, hemorrhoids are the most repeatedly perceived. Precise hemorrhoid incidence is durable to find out due to the limited number of patients who seek medical attention for this concern. Riss, et al[26] reported incidence as high as 38.93%. In our study, the rate of hemorrhoid incidence was determined as 23.8%.

CONCLUSIONS

In our study, the success rate of colonoscopy, was relatively lower than the approved standard, attributable to causes related to the patients. Even so, it was higher than the rates reported in previous studies. We also found low adenoma detection rate, which is explained by the small sample size as the center is in its early inception.

Limitations and recommendations

Standardization and calibrations (in lesion detection and categorization) among different colonoscopists are always challenging yet need to be minimized in future prospective studies. Additionally, a larger sample size is required to accurately reflect the real situation in a big city like Basra. The colon cancer early detection program should be discussed and put into practice in the next few years.

Ethical Clearance: The Research Ethical Committee at scientific research by ethical approval of Environmental and Health Ministry in Iraq from Center for Digestive and Liver Disease and Surgery in Basra

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