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Effects of Colonoscopy Screening in Patients with Lower Abdominal Complaints Presenting at a Rural Setup

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Abstract **Original Research Article**

Background: The percentage of total colonoscopies is now super-passing the level of 95 % allowing the adenoma detection rate to be greater than the suggestive level of 25 % in men and 15 % in women. This review aims to provide the reader with the current knowledge concerning indications, usefulness, limitations and future perspectives of this probably most important screening technique for colorectal cancer available today. Colonoscopy has become the mainstay for screening and surveillance of CRC. The guidelines for screening and surveillance colonoscopy have been recently updated, particularly in light of a greater recognition of the importance of sessile serrated lesions in the development of cancer. Aim: To study colonoscopy as a screening tool for early detection of colorectal malignancy in patient presenting with lower abdominal complaints in a rural setup. ***Material and Methods:*** The study conducted at the Department of Surgery, Pravara Rural Hospital and Medical College, Loni, from February 2023 onwards was an observational, descriptive cross-sectional study involving a sample of 70 participants. Eligible participants, men and women aged 18 years and above, presented with lower abdominal complaints and had not undergone previous screening. Those willing to undergo colonoscopy were included, while individuals with a prior diagnosis of colorectal cancer or who had deceased before the study were excluded. Symptoms prompting colonoscopy included lower abdominal pain, cramping, rectal bleeding, tenesmus, diarrhea, constipation, perianal discharge, and melena. ***Results:*** In the dietary habits of the study participants, it was observed that only 5 cases adhered strictly to a vegetarian diet. Most patients had difficulty specifying their dietary constituents, but overall, fat and fiber intake was deemed moderately adequate for many individuals. Tobacco use was prevalent among the participants, with 27 out of 50 patients reporting its use in various forms. Among male patients, all except one were regular smokers, while 5 out of 21 female patients used tobacco, primarily in the form of tobacco and pan masala. The incidence of colorectal carcinomas showed a notable concentration among middle-aged and older individuals, particularly in the 4th and 5th decades of life. The youngest patient diagnosed with colorectal carcinoma in this study was 21 years old. ***Conclusion:*** Colonoscopy represents the most important diagnostic and therapeutic modality for CRC prevention and treatment. It is recommended by all international and national societies devoted to either gastroenterology or cancer diagnosis and treatment, as an initial screening modality.

Keywords: Colonoscopy, abdominal, Screening.

INTRODUCTION

The second leading cause of death from cancer worldwide, colorectal cancer is an attractive target for population screening. Most commonly used screening tests are faecal testing for occult blood and endoscopic screening with sigmoidoscopy or colonoscopy. Because most colorectal cancers develop from benign polyps or mass that can be detected and removed during endoscopy, endoscopic screening may prevent colorectal cancer. Colonoscopy is considered to be more effective than sigmoidoscopy because it can be used to examine the entire large bowel.3,5 Thus, sigmoidoscopy has largely been replaced by colonoscopy, which is the predominant screening test for colorectal cancer.

Colonoscopy represents a very important diagnostic modality for screening for colorectal cancer, because it has the ability to both detect and effectively remove pro-malignant and malignant lesions. It is recommended by almost all international and national gastroenterology and cancer societies, as an initial

screening modality or, following a positive fecal occult blood test, to be performed every 10 years in individuals of average risk starting from the age of 50.

Bowel preparation is of paramount importance for both accurate diagnosis and subsequent treatment of lesions found on colonoscopy.

The risk of developing CRC is quite low in persons aged less than 40, and increases with aging. The incidence of CRC is slightly higher in men than in women. On the other hand, the prevalence of colorectal polyps in the general population is roughly 30 %. A screening colonoscopy is being suggested by a number of societies in all asymptomatic individuals aged 50 or over, especially if they had a positive fecal occult blood test.

Despite the absence of large randomised controlled trials, observational studies suggest that colonoscopy in the prior 10 years, reduced CRC incidence and mortality by over 60 %.

Aim: To study colonoscopy as a screening tool for early detection of colorectal malignancy in patient presenting with lower abdominal complaints in a rural setup.

Material and methods: The study conducted at the Department of Surgery, Pravara Rural Hospital and Medical College, Loni, from February 2023 onwards was an observational, descriptive cross-sectional study involving a sample of 70 participants. Eligible participants, men and women aged 18 years and above, presented with lower abdominal complaints and had not undergone previous screening. Those willing to undergo colonoscopy were included, while individuals with a prior diagnosis of colorectal cancer or who had deceased before the study were excluded. Symptoms prompting colonoscopy included lower abdominal pain, cramping, rectal bleeding, tenesmus, diarrhea, constipation, perianal discharge, and melena.

Inclusion Criteria:

Patient with age group of 18 years and above.

Patient with complains of:

1. Chronic lower abdominal pain or cramping.
2. Bleeding per rectum.
3. Chronic constipation.
4. Diarrhoea.
5. Tenesmus.
6. Melena.
7. Unintentional weight loss

Patients or guardians giving informed and written consent.

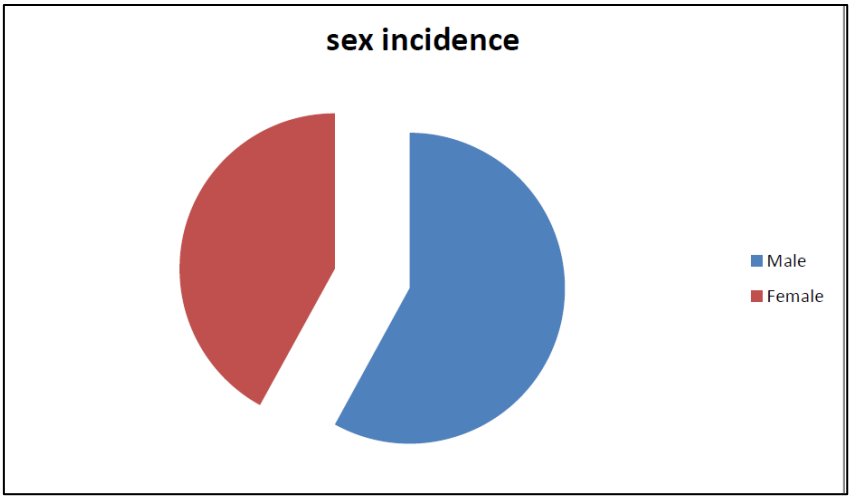
METHODOLOGY

With a sample size of 50, the study was carried out at Pravara Rural Hospital, Loni, from February 2023 to February 2024. Patients satisfying the inclusion criteria and undergoing colonoscopy at t Pravara Rural Hospital, Loni, were included in the study.

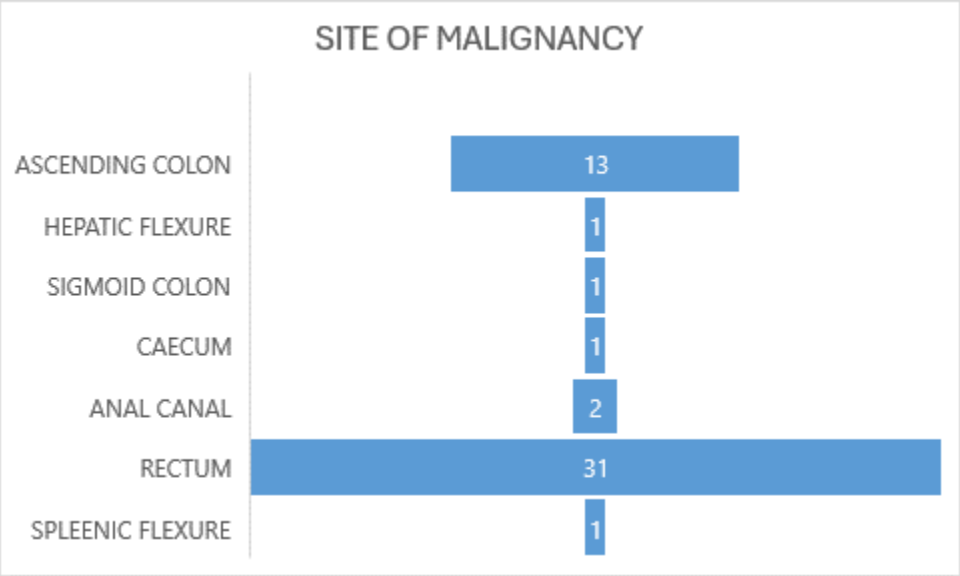
RESULTS

In the dietary habits of the study participants, it was observed that only 5 cases adhered strictly to a vegetarian diet. Most patients had difficulty specifying their dietary constituents, but overall, fat and fiber intake was deemed moderately adequate for many individuals.

Tobacco use was prevalent among the participants, with 27 out of 50 patients reporting its use in various forms. Among male patients, all except one were regular smokers, while 5 out of 21 female patients used tobacco, primarily in the form of tobacco and pan masala. The incidence of colorectal carcinomas showed a notable concentration among middle-aged and older individuals, particularly in the 4th and 5th decades of life. The youngest patient diagnosed with colorectal carcinoma in this study was 21 years old. Gender distribution showed that Male: Female ratio was 29: 21 = 1.3 : 1



Among the 50 patients studied, carcinoma of the rectum was the most prevalent, accounting for 31 cases. The distribution of tumors in other sites, in decreasing order of frequency, included 13 cases in the ascending colon, 2 cases in the anal canal, and 1 case each in the sigmoid colon, cecum, hepatic flexure, and splenic flexure.



DISCUSSION

The findings of this study underscore several critical aspects of colorectal cancer epidemiology and risk factors as observed in the study population. The prevalence of non-vegetarian diets among the participants aligns with global dietary trends, where diets rich in animal fats and proteins have been associated with increased colorectal cancer risk (Chan *et al.*, 2019; Norat *et al.*, 2019). The moderate adequacy of fat and fiber intake observed suggests a potential for dietary modifications to reduce risk, consistent with recommendations for high fiber intake and limited red and processed meat consumption (Chan *et al.*, 2019).

Tobacco use emerged as a significant risk factor, with a substantial proportion of participants reporting its use, particularly among males who were predominantly regular smokers. This finding corroborates numerous studies linking tobacco use to an elevated risk of colorectal cancer, underscoring the importance of smoking cessation programs in cancer prevention efforts (Liang *et al.*, 2020; Botteri *et al.*, 2008).

The age distribution of colorectal carcinomas in our study, with a notable concentration among middle-aged and older individuals, is consistent with established trends in colorectal cancer incidence worldwide (Siegel *et al.*, 2023). This highlights the importance of age-specific screening strategies, such as colonoscopies starting at age 50, to detect and treat colorectal cancer early.

The gender distribution showed a slight male predominance, which is consistent with global data indicating a higher incidence of colorectal cancer in males compared to females (Siegel *et al.*, 2023). This gender disparity underscores the need for gender-specific approaches in cancer prevention and screening programs.

The distribution of tumors across different anatomical sites within the colon and rectum revealed carcinoma of the rectum as the most common, followed by tumors in the ascending colon, anal canal, and other less frequent locations. This site-specific variation is crucial for tailoring treatment strategies and highlights the importance of site-specific screening protocols (Siegel *et al.*, 2023).

In conclusion, this study contributes valuable insights into the dietary, lifestyle, and demographic factors influencing colorectal cancer risk. The findings support ongoing efforts to promote healthy dietary habits, reduce tobacco use, and implement effective screening programs to mitigate the burden of colorectal cancer.

CONCLUSION

Colonoscopy represents the most important diagnostic and therapeutic modality for CRC prevention and treatment. It is recommended by all international and national societies devoted to either gastroenterology or cancer diagnosis and treatment, as an initial screening modality.

Colonoscopy has become the mainstay for screening and surveillance of CRC. The guidelines for screening and surveillance colonoscopy have been recently updated, particularly in light of a greater

recognition of the importance of sessile serrated lesions in the development of cancer

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