

# Role of Colonoscopy in Elderly Patients with Hemorrhoidal Disease and Average Risk of Colorectal Pathologies: A Retrospective Observational Study from a Tertiary Care Hospital

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## ABSTRACT

**Background:** Rectal bleeding is a typical presenting complaint which can be associated with benign conditions or underlying colorectal malignancies. As the cases of colorectal cancers in India are on the rise, the need to determine the comprehensive colonoscopic findings in older patients with hemorrhoidal diseases is on the increase.

**Objectives:** To examine the colonoscopic appearances in older patients with cases of hemorrhoidal disease and to outline the range of colorectal pathology observed.

**Methods:** This is a retrospective observational study that was carried out at a tertiary care hospital between August 2024 and July 2025. They included 50 patients older than 50 years with bleeding per rectum and hemorrhoids. All the patients have gone through full colonoscopy and biopsy in areas of suspicion.

**Results:** The average age was 64.1 years and the majority of the participants were males (84%). Abnormal results were noted in 70 percent of patients on colonoscopy. Polyps were observed in 12%, growths/masses in 8%, ulcers in 8% and colitis in 4%. Histopathology established malignancy in 6% (3 patients), adenomas in 8% and changes of inflammatory bowel diseases in 8%.

**Conclusion:** Colonoscopy is the chosen method to assess elderly patients with hemorrhoidal disease and bleeding per rectum as it allows identifying the relevant pathologies such as malignancies which otherwise may remain undiagnosed.

**Keywords:** Colonoscopy; Hemorrhoids; Colorectal cancer; Elderly patients; Bleeding per rectum; Colorectal polyps

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## INTRODUCTION

Rectal bleeding is one of the most frequent gastrointestinal complaints that can be observed in the clinical practice and its prevalence is estimated to be 20-30 percent of the general adult population [1]. Although hemorrhoidal disease is the most prevalent cause of the given symptom, especially in patients who report of bright red blood per rectum, the symptom also predetermines more serious underlying conditions, such

as colorectal malignancies [2,3]. Colorectal cancer (CRC) has become a significant health issue in the world today and is presently the third most frequent malignancy and the second most frequent cause of cancer-associated death in the world [4,5]. The incidence of colorectal cancer in the world is on the increase, and it is estimated that its cases were 1.9 million new cases and reported deaths of about 935,000 per year [6].

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The epidemiological situation with colorectal cancer has been undergoing a major change in India during the recent decades. CRC used to be regarded as a disease of the Western population, but in India, the rising incidence of the disease has been gradually increasing, especially in urban communities [7,8]. The incidence rates have risen over the years since 2-4 per 100,000 population in 1980s and currently reaches about 4-8 per 100,000 population and are higher in metropolitan cities [9,10]. This increased prevalence has been blamed on the changing eating habits, sedentary living, the rising prevalence of obesity and the better diagnostic ability [11].

Colonoscopy has become the gold standard diagnostic modality of assessment of the entire colorectum [12]. It has been claimed that since its introduction in clinical practice, in the footsteps of Overholt and Pollard in 1966, colonoscopy has transformed how colorectal pathologies are detected and managed [13]. It has a number of specific benefits, among which is a direct visualization of the colonic mucosa, opportunity to acquire tissue biopsies in order to study their histopathological structure, and therapeutic possibilities such as polypectomy [14,15]. It has been established that colonoscopic screening is effective in preventing the occurrence and death of colorectal cancer by the identification and elimination of precancerous adenomatous polyps [16-18].

The clinical problem that arises when patients come with hemorrhoidal disease is that hemorrhoids can be combined with other major colorectal pathologies. Research has revealed that about 10-40 percent of patients having hemorrhoids might have synchronous colonic lesions such as polyps, adenomas and even carcinomas [19,20]. This phenomenon of coexistence gives significance to the extensive colonic assessment of such patients especially among the aging population where the risk of malignancy is naturally greater [21]. The contemporary practice proposes colonoscopic investigation of all patients older than 50 years who present with lower gastrointestinal bleeding without considering the manifestation of overt hemorrhoidal disease [22,23].

With these recommendations, however, there exists a dearth of data on Indian tertiary care centers surrounding the range of colonoscopic findings in elderly patients with hemorrhoidal disease as the reason behind the presentation with specific symptoms. This paper has

been carried out with the aim of examining colonoscopic results on patients that present to us institute with haemorrhoidal ailment and to outline the range of colorectal pathologies as identified by this overall assessment technique.

## MATERIALS AND METHODS

### Study Design and Setting

This was a retrospective observational study done at the Department of General Surgery Chettinad Medical College and Research Institute, Chennai, India. The research time was between August 2024 and July 2025. The research methodology was compliant with the principles of ethical standards of the Declaration of Helsinki and passed through the Institutional Ethics Committee [24]. Since the study was retrospective, the informed consent was also waived.

### Study Population

A total of 50 qualitative consecutive patients who fit in the inclusion criteria within the period of the study were enrolled. The inclusion criteria included; (1) adults aged 50 years and above, (2) patients who were complaining of bleeding per rectum and had clinical evidence of hemorrhoidal disease. The exclusion criteria included: (1) Previous history of colorectal carcinoma, (2) known family history of colorectal carcinoma or hereditary colorectal cancer syndromes and (3) a history of previous surgery to treat hemorrhoidal disease. These exclusion criteria were put in place to reduce selection bias and target at the average risk patients of colorectal pathologies [25].

### Clinical Evaluation

Each patient received a thorough clinical assessment, and history taking was done with a focus on the length, character of the bleeding and its amount, secondary symptoms, such as change of bowel habits, abdominal pain, weight loss, and constitutional symptoms. Detailed physical examination was done, which involves, digital rectal examination (DRE) and proctoscopic examination to determine the presence and severity of hemorrhoids [26]. There were already relevant laboratory investigations such as complete blood count and coagulation profile, which were received as a part of the pre-procedural workup.

### Colonoscopy Procedure

Preparation of bowel was done through polyethylene glycol-based solutions that were given following conventional split-dose regimens [27]. Experienced endoscopists administered colonoscopy on

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the high-definition video colonoscopes. Total colonoscopy, meaning as far as the cecum was seen with the identification of the appendiceal diaphragm and the ileocecal valve, was attained in all the patients. Intubation of the terminal ileum was done and where possible was successful. Quality of bowel preparation was evaluated by the use of Boston Bowel Preparation Scale [28].

The whole colonic mucosa was also thoroughly studied systematically during the insertion and withdrawal processes. Any abnormalities that were present were reported, such as the site of location, size, morphology, and nature of the lesions detected. All areas of suspicion got tissue biopsies and where polypoid lesions were detected, polypectomy was done. A histopathological examination of the specimens was done and subjected to regular procedures [29].

## Data Collection and Statistical Analysis

The medical records were analyzed and data was coded in a standardized data collection form. Such variables were demographic features (age, sex), clinical presentation, colonoscopic observations, and histopathologic diagnosis. Data analysis was done using descriptive statistics. Continuous variables were reported in the form of mean and standard deviation and categorical variables reported in the form of frequencies and percentages. The statistical analysis was done with the SPSS version 26.0 (IBM Corp., Armonk, NY, USA) [30].

## RESULTS

### Demographic Characteristics

This study involved 50 patients. The patients were aged between 52 and 81 years, and the average age of the patients was 64.1 years. The population study showed a significant male preponderation, as 42 patients (84%), and 8 patients (16%), respectively, were male and female. Table 1 gives the age and sex distribution of the study population. Most of the patients (42%) would fall within the 60-70 years age bracket, 34% would fall within the 50-60 years group, and 24% would be above 70 years of age.

**Table 1: Age and sex distribution of patients under study**

Age Group	Male (%)	Female (%)	Total (%)
50-60 years	14 (28%)	03 (6%)	17 (34%)

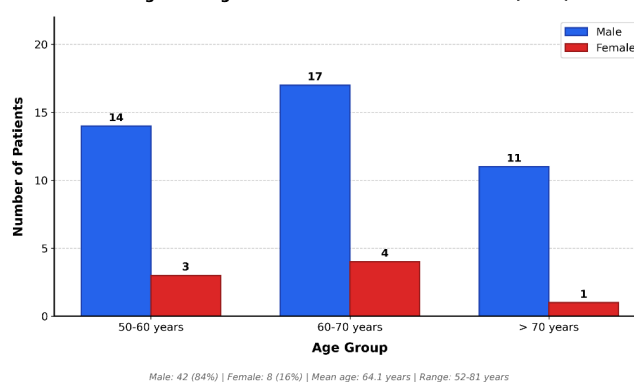
60-70 years	17 (34%)	04 (8%)	21 (42%)
> 70 years	11 (22%)	01 (2%)	12 (24%)
<b>Total</b>	<b>42 (84%)</b>	<b>08 (16%)</b>	<b>50 (100%)</b>



**Fig 1: Polyp at terminal ileum region**

*Distribution of study population across age groups stratified by sex*

**Figure 1: Age and Sex Distribution of Patients (n=50)**



*Figure 2: Bar graph showing age and sex distribution of patients*

### Colonoscopic Findings

It was found that 50 out of 50 patients had no major complications in the course of the procedure and the colonoscopy was done successfully. The results of the colonoscopic are outlined in Table 2. In 15 patients (30%), the normal colonoscopic findings were noticed and in 35 patients (70%), abnormal findings were apparent. Of the abnormal discoveries, bleeding hemorrhoids prevailed, with 14 (28% of the patients) having the abnormality. In 6 patients (12%), it was found that they had colorectal polyps and 4 patients had growths or masses (8%). In 4 patients (8%) colonic ulcers were

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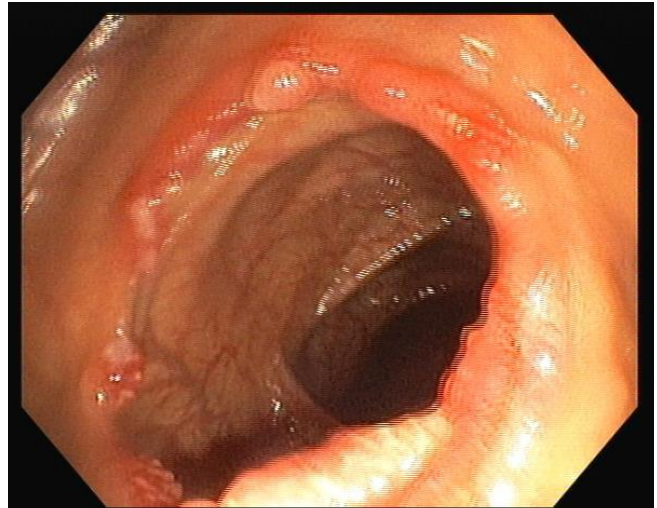
found, in 3 patients (6%) mixed results of ulceroproliferative growth. Two (4%), and two (4%) patients exhibited changes of colitis and diverticular disease, respectively.

**Table 2: Colonoscopic findings in patients under study**

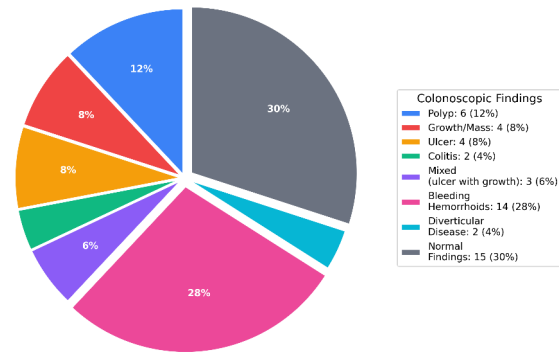
Colonoscopic Findings	Number of Patients	Percentage
Polyp	6	12%
Growth/Mass	4	8%
Ulcer	4	8%
Colitis	2	4%
Mixed (ulcer with growth)	3	6%
Bleeding Hemorrhoids	14	28%
Diverticular Disease	2	4%
Normal Findings	15	30%
<b>Total</b>	<b>50</b>	<b>100%</b>



**Fig 3:** Small growth with colitis changes at level of descending colon



**Fig 4:** Case of carcinoma rectum in 65-year-old male patient



Abnormal findings: 35 (70%) | Normal findings: 15 (30%)

**Figure 5:** Pie chart showing distribution of colonoscopic findings

## Histopathological Findings

Biomaterials were obtained through 35 patients, who displayed promising results of the colonoscopy. Table 3 shows the histopathological results. It was found that 3 patients (6% of the total population of the study) had malignancy which shows how colonoscopic screening is of high importance in this group of patients. Hyperplastic polyps were detected in 6 patients (12%), adenomatous changes were detected in 4 patients (8%). Characteristics that were typical of ulcerative colitis or Crohn disease were observed in 4 patients (8%). The non-specific inflammatory alterations were observed in 5 patients (10%), and 13 patients (26%) had no histopathological abnormality despite visual abnormalities on colonoscopy.

**Table 3: Histopathological findings in patients under study**

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Histopathological Findings	Number of Patients	Percentage
Malignancy	3	6%
Hyperplastic Polyp	6	12%
Adenoma	4	8%
Ulcerative Colitis/Crohn's Disease	4	8%
Non-specific Changes	5	10%
No Abnormality	13	26%

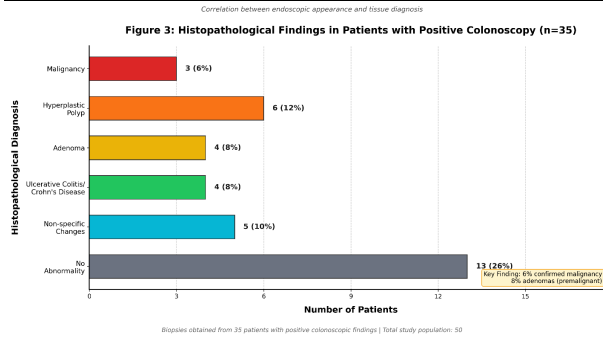


Figure 3: Bar graph comparing colonoscopic findings with histopathological diagnoses

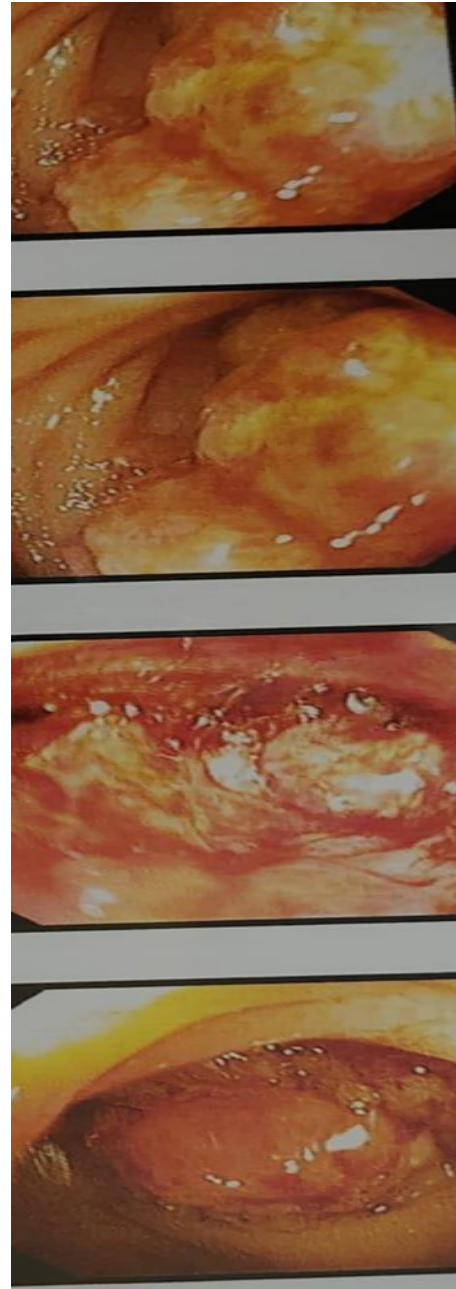


Fig : Endoscopic appearance showing progression from early mucosal irregularity (A), ulcerative lesion with slough (B), actively inflamed ulcer with necrotic base (C), and advanced ulceroproliferative growth causing luminal narrowing consistent with malignancy (D).

## Malignancy Profile

All three cases of malignancy that had been determined histopathically were male. These patients were aged 65, 67, and 75 years respectively. The

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malignant lesions lie in the rectum (n=1) and in rectosigmoid (n=2). All cases were presented with ulcers on colonoscopy through the growths. These results highlight the urgent need to conduct full colonoscopic procedures on the elderly patients who present with what seem simple hemorrhoidal bleeding.

## Procedural Safety

The colonoscopic procedures were safe in all the study patients since none of them experienced any major complications such as bleeding and perforation either during or after the procedures, which showed the safety profile of the colonoscopic procedure when carried out by experienced endoscopists.

## DISCUSSION

The current paper highlights the critical role of colonoscopic assessment in the elderly patients with the symptom of hemorrhoidal disease and rectal bleeding. We found out that 70% of the patients were found to have abnormal colonoscopic results with 6% having malignancies that were histopathologically established. These findings concur and support the existing idea that hemorrhoidal bleeding cannot be considered as the only reason behind the rectal bleeding in older patients who have not undergone a comprehensive colorectal assessment [31].

Colonoscopy has also been shown to be very sensitive and specific in diagnosing colorectal disorders and has played a huge role in the decreasing mortality due to colorectal cancer that has been witnessed in developed countries over the last several decades [32]. The process allows not only the detection but also characterization and sampling of the lesions, this is a complete diagnostic utility that cannot be compared with other imaging methods. Our research contributes to the increasing stock of evidence that supports the regular utilization of colonoscopy in the assessment of elderly patients experiencing lower gastrointestinal symptoms.

Our population of study is a demographic composition with a mean age of 64.1 years and predominantly male (84 percent), a combination that aligns well with the epidemiology of hemorrhoidal disease, as well as colorectal pathologies already known. Various research articles have shown that colorectal cancer incidence rate rises significantly as age advances, and most of the cases are found among people aged above 50 years [33]. The male dominance which emerged in our study is reflected by the result of other larger epidemiological studies that have continuously given

higher incidences of colorectal malignancies among males as opposed to females [34,35].

The range of colonoscopic results on our research is remarkable. Although bleeding hemorrhoids had the highest prevalence (28%), a significant percentage of patients had other areas of pathology. The identification of the polyps in 12% of the cases is of particular importance, considering that the adenoma-carcinoma pathway of the colorectal cancer progression is established. A retrospective study conducted by the Mayo Clinic over a span of six years, in which 226 patients who had colonic polyps were examined, proved successful in illustrating that the risk of cancer diagnosis at the location of the polyp was 2.5, 8, and 24 per cent at age five, ten and twenty years, respectively [36]. These results highlight the possible utility of the detection and elimination of precancerous polyps by colonoscopic surveillance.

The 6 percent malignancy we have found in our study population is a sobering fact that confirms the importance of complete colonoscopic assessment. The three malignancies were all in male patients with an age of 65 years and above, which aligns with the risk profile of colorectal cancer. Significantly, the three cases all were treated as ulceroproliferative gastromesenteric of the rectum or rectosigmoid locality, which may be overlooked as an outcome of hemorrhoidal pathology without proper endoscopic investigation. Other Indian researches have reported similar results with a crude incidence rate of colorectal cancer reported by Javid and Zarg at 3.65 per 100, 000 population, and also with males having slightly higher rates than women [37].

Another group that is at high risk of developing future malignancy was observed by the histopathological results of adenoma in 8 percent of patients. The National Polyp Study showed that colonoscopic polypectomy has a significant effect in the prevention of colorectal cancer in individuals who have adenomatous polyps and this is a strong indication of the prevention of screening colonoscopy [38]. The presence of inflammatory bowel disease characteristics in 8% of patients further depicts how heterogeneous the pathology may be that co exist with or resemble hemorrhoidal disease.

Our study has shown that the safety profile of colonoscopy was excellent and there were no major complications. This is in line with the published literature where iatrogenic perforation of colonoscopy is between 0.016% and 0.2% in cases of diagnostic

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procedures and 5% in the case of therapeutic procedures [39]. No complications were observed in our cohort, which is the indication of how crucial the correct patient selection, proper bowel preparation, and skilled endoscopists can be in ensuring the safety of the procedure.

There are some limitations to our study that is worth considering. Our findings can be generalized only to a certain extent due to the retrospective design and a rather small sample size. The study is also single center and this aspect might not be representative of the Indian population. Besides, the lack of follow-up data over the time period does not allow evaluating the results of patients who have identified pathologies. Notwithstanding these shortcomings, our research gives significant values to the validity of colonoscopy in the elderly patients with hemorrhoidal disease in the Indian setting.

The clinical implications of the findings of this study are significant. They back the existing guidelines of colonoscopic investigation of all patients of all ages, who show up with rectal bleeding, despite the existence of apparent hemorrhoidal condition. Such screening measures can help to identify colorectal malignancy and premalignant lesion earlier, which can, perhaps, improve patient outcomes due to timely intervention [40].

## CONCLUSION

Colonoscopy is the preferred diagnostic modality that must be taken as gold standard when assessing the elderly who present with hemorrhoidal disease and bleeding per rectum. Our data show that a significant percentage of such patients contains clinically relevant colorectal pathologies such as malignancies that would go undetected in the absence of an extensive endoscopic examination. The identification of malignancy in 6 per cent of the patients and adenoma in 8 per cent is indicative of the preventive nature of routine colonoscopic screening in the subject group.

Although our research can be characterized by its one-institution character and relatively small sample, it offers some useful information about the range of colorectal pathologies in elderly Indian patients manifesting themselves as hemorrhoidal disease. We suggest that colonoscopy should be periodically done in all patients who present with bleeding per rectum at age of 50 years and older regardless of whether they are having hemorrhoids to assuage the occurrence of fatal colorectal diseases. Multicenter prospective studies

involving larger sample sizes and long term follow-ups in future should be considered to support these findings and to develop evidence-based screening guidelines in this group of patients.

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