

Diagnostic Yield of Colonoscopy in Patients Presenting with Per Rectum Bleeding at a Tertiary Care Centre

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Abstract: *Background & Objective:* Per rectal (PR) bleeding is a common reason for hospitalization and is defined as bleeding that emanates from a source distal to the ligament of Treitz. Although bleeding ceases spontaneously in 80% cases, 25% risk of re-bleed persists along with a difficulty of identifying the bleeding source. The purpose of this paper was to investigate the diagnostic yield of colonoscopy and assess the detection rate of different lesions in patients with PR bleeding as seen in our hospital. *Methods:* Fifty adult patients with PR bleed, irrespective of their gender were selected from general medical OPD and general medical wards. All patients were subjected to fibre-optic colonoscopy after necessary preparation and findings were recorded. Biopsies taken from suspected lesions were clinically indicated. *Results:* Study population included 50 patients, 28 males (56%) and 22 females (44%) with a mean age of 47.16±18.08 years. Findings at colonoscopy were; hemorrhoids (48%), polyp (6%), growth (6%), diverticular disease (6%), ulceration (4%), fissure (2%), fistula (2%), inflammatory bowel disease i.e., IBD (2%) and telangiectasia (2%). Normal findings were reported in 22% cases. *Conclusion:* Colonoscopy has very high diagnostic yield and would be recommended in the workup of patients presenting with bleeding per rectum.

Keywords: Diagnostic Yield, Colonoscopy, Per Rectum Bleeding

1. Introduction

Per rectum bleeding (PR Bleeding) means bleeding into enteric lumen originating distal to the ligament of Treitz and is referred to as lower gastrointestinal bleeding (LGIB).[1] PR bleeding may be overt or occult, and overt bleeding can be acute, massive or chronic and covers both small bowel and colonic sources.[2] PR bleeding occurs in 20% of the population, but only about 7 per 1000 patients per year seek medical opinion for the same.[3] Although bleeding stops spontaneously in 80% cases without warranting hospitalization, identification of the bleeding source remains challenging and re-bleeding can occur in 25% of cases.[4] Reported mortality rate is 3-5%, but higher mortality rate of 23% is seen in patients who develop bleeding at hospital compared to those who have rectal bleeding before hospital admission (3%).[5]

Once the bleeding is suspected to be coming from a lower GI source, it warrants an evaluation in all cases and colonoscopy is the examination of choice for diagnosis and treatment.[6] The demand for colonoscopy has been increasing over the years, given the relative safety and the low complication rate associated with the procedure.[7-10] Global data documenting the value of colonoscopy in the diagnosis of colonic disease is available however, fewer studies have analyzed the diagnostic yield of the various indications.[11]

The diagnostic yield of an endoscopic procedure is defined as its capacity for identifying a lesion that is potentially important to patient care and has been reported in relation to the appropriateness of the indication.[12] For colonoscopy,

the diagnostic yield ranges between 40% to 45% for procedures that are referred for appropriate indications and 15 - 20% for those with inappropriate indications.[11-13] However, in the only randomized controlled trial on the use of urgent colonoscopy for evaluation of acute PR bleeding, 42% of patients had a definite diagnosis made when colonoscopy was performed within 8 hours of admission.[14]

2. Problem Definition

The purpose of this paper was to investigate the diagnostic yield of colonoscopy and assess the detection rate of different lesions in patients with PR bleeding as seen in our hospital.

3. Methodology / Approach

Study Location

This study was conducted in the endoscopy department of United Ciigma Hospital- a tertiary care center in Aurangabad, Maharashtra, India from January, 2017 to August 2017.

Study Population

Fifty consecutive patients, irrespective of gender, who underwent colonoscopy for PR bleeding and fit into the inclusion / exclusion criteria were included in the study.

Inclusion and exclusion criteria

All consecutive patients above 18 years of age with gross PR bleed i.e., fresh or altered blood in stool visible with naked eyes and in whom we reached up to caecum were included

in the study. Patients who did not give consent, were critically ill needing intensive care/emergency surgical intervention, presented with blood/coagulation disorders/bloody diarrhea or had undergone recent surgeries were excluded from the study.

Datacollection

Patients presenting in general medical OPD or admitted in general medical wards of the hospital were recruited in the study after fulfilling inclusion/exclusion criteria. Detailed history, physical examination and all baseline investigations were carried out. Personal information of the patients was kept confidential. Administrative permission from the concerned authorities was obtained. The data was collected on a proforma.

Procedure

All the patients were prepared for Colonoscopy by asking them to use liquid only diet for two days prior to the examination. They were administered enema half on the night prior and half on the day of examination. Midazolam or Diazepam was used as re-medication. The colonoscopy was performed only after the patients received 4 hours of bowel preparation before the procedure. Patients received conscious sedation monitored by anesthetists. All cases in this study were haemodynamically stable and colonoscopy was done after gut preparation. Olympus video colonoscope Type 190 series was used for colonoscopy. Colonoscopic findings and any complications during the procedure were recorded and photo documented. Data regarding the patient's demographic characteristics, co-morbidities, and clinical findings were recorded using a questionnaire and analyzed by their frequencies and percentages. Suspicious lesions were biopsied and sent to laboratory for histopathological studies. Their results were also recorded on the proforma.

4. Results & Discussion

Study population included 50 patients, 28 males (56%) and 22 females (44%), with visible blood per rectum indicating that there is no significant difference in the sex ratio of patients.

The age range was 63 years (18 - 81 years) with a mean age of 47.16±18.08 years. Women and men were of comparable ages.

Patients presenting with PR bleeding are more common in <30yrs age group 13 (26 %) followed by in 61-70 years age group and then 10(20%) followed by 51-60 years age group 5 (10%) as can be inferred from table 1.

Table 1: Age group & sex distribution of cases

Age (in years)	Sex		Frequency	Percentage (%)
	Males	Females		
-30	9	4	13	26
31-40	3	4	7	14
41-50	5	2	7	14
51-60	4	4	8	16
61-70	5	5	10	20
70+	2	3	5	10

Colonoscopy showed abnormalities in 78% of the patients. Findings at colonoscopy were; hemorrhoids (48%), polyp (6%), growth (6%), diverticular disease (6%), ulceration (4%), fissure (2%), fistula (2%), inflammatory bowel disease i.e., IBD (2%) and telangiectasia (2%). Normal findings were reported in 22% cases. (Figure 1). Diverticula and telangiectasia was seen in patients above 60 years of age while IBD was seen in younger group i.e., age <40.

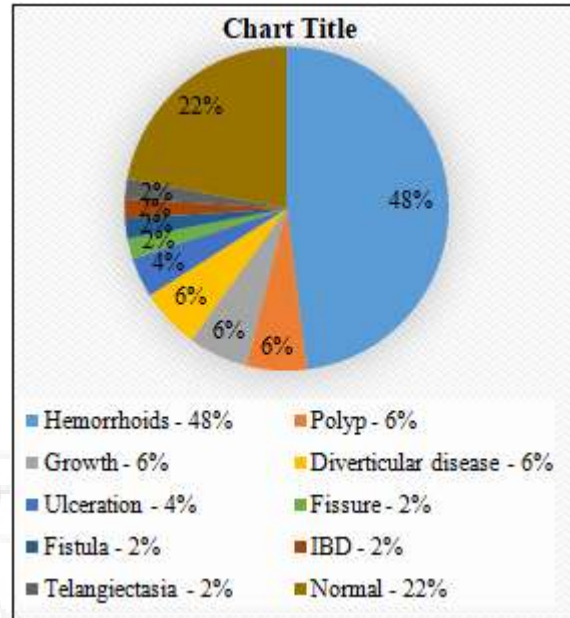


Figure 1: Findings at Colonoscopy

In our study hemorrhoids, fissure, polyp, diverticula and colonic growth were most commonly seen in males, whereas ulceration in colon is seen predominantly in females. Inflammatory bowel diseases seen equally in males and females. Growth was more common in transverse colon followed by recto sigmoid colon; slightly less common in ascending colon.

Though 98% patients reported with PR bleeding as primary symptom, 4% patients presented with pain. Secondary symptoms were seen in 50% of the patients, constipation being most common seen in about 20% of the cases followed by pain, weight loss and melena in 16%, 8% and 6% respectively.

In our study, out of 50 patient's 11 cases had normal report, which means in rest of 39 patients, colonoscopy was useful in finding abnormal feature to reach the diagnosis. This diagnosis was confirmed by taking biopsy from if growth or polyp present, or with other blood and radiological investigations. So, diagnostic yield of our study is 78%, which supports almost similar results in other studies, e.g., Chaudry *et al*: 95%, Jensen *et al*: 74% and Cheung *et al*: 79.5%. The seven major indications evaluated for their diagnostic yields in our study are similar to those used in previous studies.[15-17] Lesions similar to our study have been reported from other Asian countries. In a nationwide Chinese survey, involving nearly 54,000 patients, the chief causes of lower GI bleed were similar to our study including the low incidence of diverticulosis.[18]

There is no consensus regarding the timing of urgent colonoscopy, which is determined by local resource availability. In the literature, colonoscopy within 8 hours, 12 hours and 24 hours are all reported as urgent colonoscopies.[14]

Green *et al* showed no difference in mortality, hospital stay, mean transfusion requirements, early or late re-bleeding or surgery when comparing urgent colonoscopy (within 8 hours) to standard medical care (without colonoscopy but include angiography).[19] However, two other studies found that earlier colonoscopy (within 24 hours) was associated with shorter hospital stay[15, 20]. In addition, Strate *et al* found that earlier colonoscopy resulted on significantly more therapeutic interventions.[21]

5. Conclusion

Colonoscopy has an advantage of being both a diagnostic as well as therapeutic technique. However, the diagnostic yield of colonoscopy is dependent on the appropriateness of the indication. Though it has been argued that colonoscopic screening is dangerous, expensive, and requires specialized skills, diagnostic yield of colonoscopy for GI bleed is high, as this procedure helps identify the site as well as cause of PR bleeding. Literature suggests that it should only be undertaken in those patients who will benefit the most, and that stricter selection criteria should be used to optimize a colonoscopic service. Despite these observations, colonoscopy remains an accurate, reliable, and safe procedure to investigate patients presenting with PR bleeding.

6. Future Scope

Although colonoscopy is the diagnostic investigation of choice today, questions about its timing and the need for bowel preparation remain unanswered. While some authors advocate early colonoscopy in an unprepared bowel, others advise a more expectant approach. It shall also be considered that sample size of the study was not large enough to predict that such results represent the true picture of the whole population, and hence large-scale studies are required to validate the findings of this study.

However, with improvement in colonoscopy technology, including thinner and more flexible colonoscopes, studies demonstrated that colonoscopy is safe and effective in diagnosis of lower GI bleed.

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