

## Original Research Article

# Efficacy of OPD based rigid sigmoidoscopy in diagnosing the patients with bleeding per rectum

Hardik Parmar, Arun R.\*, Sahdevsinh Chauhan, Akshay Sutaria

Department of General Surgery, Medical College and Sir Sayaji General Hospital, Vadodara, Gujarat, India

**Received:** 14 November 2018

**Accepted:** 11 December 2018

### \*Correspondence:

Dr. Arun R.,

E-mail: [dr.r.arunmbbs@gmail.com](mailto:dr.r.arunmbbs@gmail.com)

**Copyright:** © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

## ABSTRACT

**Background:** The aim of study was to evaluate the patients with bleeding per rectum by rigid sigmoidoscopy and to know the various causes of bleeding per rectum in our OPD population and to select the best approach to treat the underlying pathology.

**Methods:** A total 63 patients with bleeding per rectum in whom cause could not be ascertained by routine methods like proctoscopy were considered from outpatient department from January 2017 to June 2018 for the study. Out of 63 patients, rigid sigmoidoscopy done in 31 patients and results were documented. All 31 patients were undergone for complete clinical examination and rigid sigmoidoscopic examination in the surgical OPD and routine blood, urine and stool investigations were also done.

**Results:** Out of 31 cases in which sigmoidoscopic examination has been done, definitive source of bleeding is identified in 22 cases (70.97%) and in 9 cases (29.03%), the source of bleeding could not be detected by rigid sigmoidoscope.

**Conclusions:** Rigid sigmoidoscopy has a very high diagnostic yield (approximately 71% in this study) in patients with bleeding per rectum which could not be detected by routine ano proctoscopy. Hence rigid sigmoidoscopy would be recommended in the workup of patients presenting with bleeding per rectum and it also serves an equally important function in excluding serious colonic lesions like malignancy and enables us to reassure the patient.

**Keywords:** Bleeding per rectum, Rigid sigmoidoscopy

## INTRODUCTION

Bleeding per rectum is one of the commonest clinical problem for the patient attending surgical OPD. It is estimated that, approximately one in seven persons aged from 20 to 64 years has a history of rectal bleeding atleast once in their life.<sup>1</sup> Also, rectal bleeding is the most common symptom of large bowel pathology which comprises 14 to 19% in adult population.

The etiology of bleeding per rectum is highly variable. Many a times cause of bleeding lies in anal canal like haemorrhoid, fissure etc. but if an obvious anal cause

for the bleeding is not identified then there is no clear guidelines as how patients should be further investigated to identify the cause in our local surgical clinics.

Some investigators have suggested that colonoscopy should be done in all individuals presenting with bleeding per rectum, because colonoscopy offers high diagnostic yield of abnormal findings, including neoplastic disease.<sup>2-4</sup> However, colonoscopy also causes inconvenience to patients due to the need for thorough bowel preparation. The procedure may also necessitate use of sedatives and anaesthetic agents. Routine colonoscopy for investigation

of rectal bleeding is also not desirable in the presence of limited health resources in developing countries.

Since 1970s, sigmoidoscopy has been widely used for the investigation of patients with lower gastrointestinal tract complications. The use of sigmoidoscopy may offer a more cost-effective diagnostic approach, particularly for patients presenting with only bright red rectal bleeding. Sigmoidoscopy is also a safe method for diagnosing and even taking biopsies whenever necessary under direct vision. Therefore, this study is an attempt to evaluate the patients with bleeding per rectum sigmoidoscopically and to select the best possible approach to treat the underlying pathology.

## METHODS

The study was conducted in Department of General Surgery, Baroda medical college and SSG hospital - Vadodara. The patients who attended the surgical OPD with a common chief complaint of passage of blood per rectum besides the other symptoms were included in this study. This study was conducted during January, 2017 to June, 2018.

### Inclusion criteria

All the patients who attended the surgical OPD with chief complaints of bleeding per rectum in which the source of bleeding could not be identified by routine ano proctoscopy.

### Exclusion criteria

- Patients not giving informed consent,
- Patients with acute painful conditions like anal fissure,
- Type of study: cross sectional study.

### Methodology

In all the cases detailed clinical history was taken and patients were subjected to complete clinical examination with special emphasis on the examination of abdomen, per rectal examination and ano proctoscopy.

Patients were also referred to complete clinical investigations (total leukocyte count, differential leukocyte count, hemoglobin), urine examination. stool examination was also done for the search of ova and cysts and also for some abnormal cells.

Rigid sigmoidoscopy was performed without any bowel preparation with laxative or by washouts. Rigid sigmoidoscope having diameter of 1.5cm. and length of 25cm was used. With this smallbore instrument discomfort to the patient was minimal and examination to 25cm was possible without any difficulty in most of the cases.

### Study population

Around 31 cases with bleeding per rectum in whom the cause of bleeding could not be identified by routine ano proctoscopy.

### Statistical analysis

Statistical test includes chi square test and descriptive statistics. Results were expressed in mean and standard deviation.

## RESULTS

The present study was conducted in Department of General Surgery at Baroda medical college and SSG hospital-Vadodara, during the period of January 2017 to June 2018. The study group consisted of 63 symptomatic patients with complaints of bleeding per rectum in whom cause could not be ascertained by routine methods like proctoscopy. Among the patients visited the surgical out-patients department during a period from January 2017 to June 2018, 1768 patients had the complaints of bleeding per rectum. Among 1768 cases 63 cases with complaint of bleeding per rectum, the cause could not be ascertained by clinical examination, per rectal examination and ano-proctoscopy. Out of 63 cases, who were advised rigid sigmoidoscopy to determine the cause of unknown rectal bleeding, 35 (55.55%) cases were males and remaining 28 (44.44%) were females (Table 1).

**Table 1: Age and sex distribution of different subgroup of patients with unknown bleeding per rectum.**

Age group (years)	No. males	% males	No. females	% females	No. total	%
0-10	2	5.71%	2	7.14%	4	6.35%
11-20	5	14.29%	3	10.71%	8	12.70%
21-30	6	17.14%	5	17.86%	11	17.46%
31-40	8	22.86%	6	21.43%	14	22.22%
41-50	5	14.28%	7	25.00%	12	19.05%
51-60	9	25.72%	5	17.86%	14	22.22%
61-70	-	-	-	-	-	-
Total	35	100.00%	28	100.00%	63	100.00%

**Table 2: Sex distribution of different lower gastrointestinal lesions presenting with bleeding per rectum.**

Gastro intestinal lesions	Total	No. males	% males	No. females	% females
Ulcerative colitis	7	4	22.22%	3	23.08%
Amoebic colitis	3	2	11.11%	1	7.69%
Colonic malignancy	9	6	33.33%	3	23.08%
Polyps	3	3	16.67%	-	-
Sigmoid Diverticulae	-	-	-	-	-
Unknown cause	9	3	16.67	6	46.15%
Total	31	18	100.00%	13	100.00%

Out of 63 cases that were advised sigmoidoscopy, patient's compliance was as low as 31 cases (49.20%) were turned up for the sigmoidoscopic examination to determine the cause of bleeding. A total of 31 cases were examined sigmoidoscopically for rectal bleeding whose cause had not been determined.

The probable or definite source of the bleeding was diagnosed in 22 (70.97%) cases. The remainder 9 (29.03%) cases had various other lesions which could not be detected by sigmoidoscope. Sex distribution of different lower gastrointestinal lesions presenting with bleeding per rectum was as per Table 2.

The maximum number of cases of ulcerative colitis belonged to age group 11-20years 1/7(14.28%), followed by 3/7 (42.85%) cases from age group of 31-40 years. 1/7(14.28%) cases were from age group 21-30 years while 2/7 (28.57%) cases belonged to age group 41-50 years. The higher incidence of colonic malignancy 5/9 (55.55%) cases was in the age group of 51-60 years followed by 2/9 (22.22%) cases each from age groups 31-40 and 41-50 years. Out of total 3 cases of amoebic colitis 1 case belonged to age group of 21-30 years while other 2 cases belonged to age group 31-40 years. 2 cases of polyps belonged to the age group 0-10 years and 1 case of polyp belongs to 21 to 30 years.

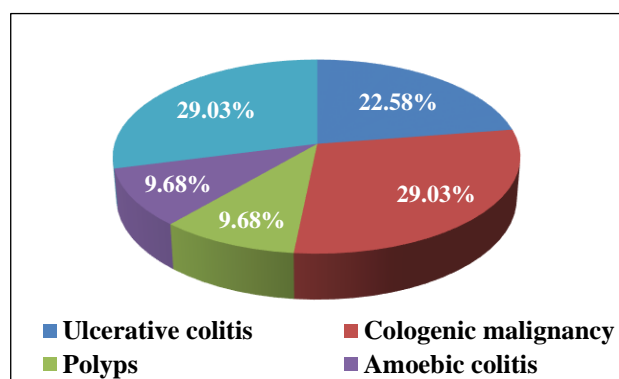
**Table 3: Intubation distance reached by rigid sigmoidoscope.**

Distance from anal verge (cm)	No. of cases	Percentage
≤15	3	9.68%
Up to 20	10	32.25%
Up to 25	18	58.06%

Intubation distance values showed that the rigid sigmoidoscope was passed up to 25cm in 18 cases (58.06%), 20cm in 10 cases (32.25%), and up to 15cm in 3 cases (9.68%) (Table 3).

Distribution of various colorectal diseases showed ulcerative colitis 22.58% (7 cases), cologenic malignancy 29.03% (9 cases), polyps 9.68% (3 cases), amoebic colitis

9.68% (3 cases) and none of the lesions were found in 29.03% of the subjects (9 cases) (Figure 1).


**Figure 1: Rigid sigmoidoscopic distribution of different colorectal diseases.**

## DISCUSSION

Large bowel endoscopy is nowadays a gold standard in the diagnosis of diseases of colon. Though colonoscopy is a most useful diagnostic and therapeutic tool, its cost and the resources are limiting factors for its usage in developing countries. Sigmoidoscopy has historically been extremely valuable diagnostic tool in the study of colonic diseases. And also, it is more cost effective compared to colonoscopy.

The barium enema provides an examination beyond the capability to sigmoidoscopy, but the sigmoidoscopy could be used directly to examine the more difficult areas of radiologic evaluation, the two techniques were obviously found complementary.<sup>5</sup> Also, several studies have compared the sensitivity and specificity of the radiologic and sigmoidoscopic examination of the lower gastro-intestinal tract and have emphasized the fallibility and complementary nature of the two investigations.<sup>6,7</sup>

In the present study, the sigmoidoscopy was a better first line of investigation in the detection of lower colonic diseases presenting with bleeding per rectum because the total diagnostic yield of rigid sigmoidoscopy was significantly good (22/31, 70.97%) which is comparable to study by Banothu et al.<sup>8</sup> No patient sustained a major

complication and this confirms the procedure's safety which is consistent with studies of Gelfand et al, and Abrams et al.<sup>9,10</sup>

Study by Hughes et al, stated that 25% sigmoidoscopies fail to the full length of 25cm.<sup>11</sup> In contrast, in this study full insertion up to 25cm. failed in 41.93% of our examinations. Included in this, 4 cases were less than 10 years of age. Sigmoidoscope was passed to full length of 25cm in 18 (58.06%) cases of our study group. The average distance achieved in our study with rigid sigmoidoscope was 20.80 cm. in the study by Leicester et al, the average distance to which rigid sigmoidoscope was inserted was 17.7±4.0cm.<sup>12</sup>

The incidence of ulcerative colitis in this study group is 7 out of 31 cases (22.58%). In the study of Teague et al, ulcerative colitis was found in 16 out of 85 cases of bleeding per rectum (18.82%).<sup>13</sup> Screening for colonic carcinoma by stool occult blood testing has sensitivity of 75%.<sup>14</sup> Also, it has been emphasised by several authors that 75% of all colorectal carcinoma are found within the reach of rigid sigmoidoscopy.<sup>15,16</sup> Hence a combination of sigmoidoscopy and stool occult blood testing will produce the best detection rate for colonic carcinoma.

Rigid sigmoidoscopy has a very high diagnostic value in making the positive diagnosis in patients with bleeding per rectum in which preliminary investigation and even radiological procedures gives a negative response. However, it also serves an equally important function in helping to exclude serious colonic lesions and enables us to reassure the patient.

## CONCLUSION

The rigid sigmoidoscopy have a better diagnostic yield (70.9%) in patients with bleeding per rectum in which the etiology is not able to made out by routine clinical examination and investigations. In (29.1%) cases the cause of the bleeding per rectum was not determined on rigid sigmoidoscopy that means lesions where beyond the reach of the sigmoidoscope and requires further evaluation by other means. The present study showed the feasibility and efficacy of rigid sigmoidoscopy as first line OPD based procedure in the lower gastrointestinal disease patients presenting with bleeding per rectum.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: The study was approved by the Institutional Ethics Committee*

## REFERENCES

1. Talley NJ, Jones M. Self-reported rectal bleeding in a United States community: prevalence, risk factors,

- and health care seeking. Am J Gastroenterol. 1998;93:2179-83.
2. Acosta JA, Fournier TK, Knutson CO, Ragland JJ. Colonoscopic evaluation of rectal bleeding in young adults. Am Surg. 1994;60:903-6.
3. Graham DJ, Pritchard TJ, Bloom AD. Colonoscopy for intermittent rectal bleeding: impact on patient management. J Surg Res. 1993;54:136-9.
4. Guillem JG, Forde KA, Treat MR, Neugut AI, Bodian CA. The impact of colonoscopy on the early detection of colonic neoplasms in patients with rectal bleeding. Ann Surg. 1987;206:606-11.
5. Miller RE. Barium enema versus sigmoidoscopy. Gastrointestinal Endosco. 1982;28:1.
6. Saunders CG, Mac Ewen DW. Delay in diagnosis of colonic cancer a contributing challenges. Curr Prob Diag Radiol. 1971;45(2):139-48.
7. Wolff WI, Shinya H, Geffen A, Ozoktay S, DeBeer R. Comparison of colonoscopy and the contrast enema in five hundred patients with colorectal disease. Ame J Surg. 1975 Feb 1;129(2):181-6.
8. Srinivas B, Shailendra B. The diagnostic efficiency of sigmoidoscopy in patients with bleeding per rectum. IAIM. 2016;3(6):164-9.
9. Gelfand DW. Complication of gastro-intestinal radiological procedures. Gastrointest Radiol. 1980;5:293-315.
10. Abrams JS. A second look at sigmoidoscopy indications, failures and cost. Am J Surg. 1982;117:913-7.
11. Hughes ESR. Surgery of anal canal, anus and rectum. First edition, Livingstone, Edinburgh and London; 1957:127-153.
12. Leicester RJ, Lightfoot A, Millar J, Colin-Jones DG, Hunt RH. Accuracy and value of the Hemoccult test in symptomatic patients. Br Med J (Clin Res Ed). 1983 Feb 26;286(6366):673-4.
13. Teague RH, Thornton JR, Manning AP, Salmon PR, Read AE. Colonoscopy for investigation of unexplained rectal bleeding. The Lancet. 1978 Jun 24;311(8078):1350-2.
14. Hardcastle JD, Farrands PA, Balfour TW, Chamberlain J, Amar SS, Sheldon MG. Controlled trial of faecal occult blood testing in the detection of colorectal cancer. Lancet. 1983;11:1-4.
15. Leffal LD. Early diagnosis of colorectal cancer. Camcer. 1974;24:152.
16. Rosato FE, Marker G. Changing site distribution patterns of colorectal cancer at Thomas Gefferson University Hospital. Dis Colon Rectum. 1981;24:1-5.

**Cite this article as:** Parmar H, Arun R, Chauhan S, Sutaria A. Efficacy of OPD based rigid sigmoidoscopy in diagnosing the patients with bleeding per rectum. Int Surg J 2019;6:261-4.