

DIAGNOSTIC EVALUATION OF PATIENTS PRESENTING WITH BLEEDING PER RECTUM BY COLONOSCOPY

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Background: Rectal bleeding is a manifestation of lower gastrointestinal bleed, which means bleeding from a site distal to ligament of Treitz. Annual incidence of this problem has been estimated to be 20% and mortality as 11%. Patients complaining of haematochezia are suspected of having lower GI bleeding and proctosigmoidoscopy followed by colonoscopy is the examination of choice for diagnosis and treatment. Previous evidence suggested that in our country, frequencies of different aetiologies of lower GI bleed are different from the West. This study validated the previous findings. The Objective of this study was to determine the causes of rectal bleeding in adult patients at Military Hospital, Rawalpindi. **Methods:** One hundred and five adult patients with visible rectal bleed, irrespective of their gender were selected by non-probability convenient sampling from general medical OPD and general medical wards. Patients with suspected upper GI source of bleeding; haemorrhoidal bleed and acute infectious diarrhoea were excluded from the study. All patients were subjected to fibre-optic colonoscopy after necessary preparation and findings were recorded. Biopsies taken from suspected lesions were clinically indicated. Diagnosis was based on colonoscopic and histopathologic findings. **Results:** A total of 105 patients (77 male and 28 female) with mean age 41.04 yrs were part of the study. Colonoscopy showed abnormal findings in 85 (84%) patients. The commonest diagnosis was ulcerative colitis, which was found in 48 (46%) patients. It was followed by colorectal carcinoma, 11 (10%) patients, and non-specific colitis, 9 (8%) patients. Other less frequent findings were colonic diverticuli, 7 (6%) patients, solitary rectal ulcer, 5 (4%) patients, colonic polyps in 3 (2.5%) patients and one case each of telangiectasia and Crohn's disease. **Conclusion:** Colonoscopy has very high diagnostic yield and would be recommended in the workup of patients presenting with bleeding per rectum. Ulcerative colitis was the leading cause of bleeding per rectum in this study; while infrequent findings of Crohn's disease, polyps and diverticuli indicate that these are uncommon in this region.

Key Words: Colonoscopy, Gastrointestinal Haemorrhage, Colitis

INTRODUCTION

Lower gastrointestinal bleeding (LGIB) means bleeding from sites distal to the ligament of Treitz and presents as rectal bleeding.¹ This rectal bleeding may be overt or occult, and overt bleeding can be acute, massive or chronic. Rectal bleeding occurs in 20% of population annually according to Medline literature search.² Mortality for LGIB is around 11% overall and up to 21% for the acute massive category.^{1,3}

It is usually suspected when patients complain of haematochezia (passage of maroon or bright red blood or blood clots per rectum). This is different from the clinical presentation of upper GI bleeding, which includes haematemesis and/or malena. However about 11% cases of upper gastrointestinal (GI) bleed may present as haematochezia.⁴

Once the bleeding is suspected to be coming from a lower GI source, it warrants an evaluation in all cases and proctosigmoidoscopy followed by colonoscopy is the examination of choice for diagnosis and treatment.¹ It is also the most accurate method of imaging the lower gastrointestinal tract.⁵

The causes of LGIB may be grouped into several categories: anatomic (diverticulosis); vascular (angiodysplasia, ischemic); inflammatory (infectious, idiopathic, radiation-induced); and neoplastic.

Studies done in western population have shown that most frequent causes of lower GI bleed are diverticulosis and polyps followed by neoplasia, inflammatory bowel disease, non-specific proctitis, ischemic colitis, angiodysplasia and infectious colitis.^{6,7} However studies conducted in India and Singapore have demonstrated that there were differences in frequencies of aetiologies in their population compared to Western one.^{3,8} In our country, lot of work has been done on aetiology and treatment of upper gastrointestinal bleeding but lower tract remains deficient. In a study carried out 15 yrs back in Nishtar Hospital Multan, Nasir *et al*,⁹ demonstrated that the most frequent pathologies in lower gastrointestinal tract as evaluated by colonoscopy include ulcerative colitis and malignancy, followed by amoebic colitis, while there was only a small percentage of Crohn's colitis, polyps and diverticuli. Hence there is a marked difference in frequencies of aetiologies of lower GI bleed between our population and the West. The aim of this study was to update the findings of previous studies, along with identification of common pathologies causing rectal bleeding in our patients.

MATERIALS AND METHODS

It was a cross-sectional descriptive study carried out at Department of Gastroenterology, Military Hospital

Rawalpindi from 12 January 2006 to 12 January 2007 including 105 patients selected according to following inclusion and exclusion criteria;

Inclusion Criteria:

- Adult male and female patients with age ≥ 16 yrs.
- Patients presenting with visible rectal bleeding as their chief complaint.

Exclusion Criteria:

- Patients with suspected upper gastrointestinal source of bleeding, i.e., history of haematemesis/melena or gastric aspirates containing coffee-ground material or bright red blood.
- Patients with haemorrhoidal bleeding established by per rectum exam/proctoscopy.
- Patients with rectal bleeding as a result of acute infectious bloody diarrhoea.

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.

All the patients were prepared for Colonoscopy by asking them to use liquid only diet along with 2 teaspoonfuls of castor oil daily for three days prior to the examination. They were administered enema twice on the night before and four times on the day of examination. Midazolam or Diazepam was used as premedication. All cases in this study were haemodynamically stable and colonoscopy was done after gut preparation. Olympus^(R) (PCF) video colonoscope Type 160 AL was used for colonoscopy. Colonoscopic findings were compiled and analyzed using the statistical tests already mentioned. Suspicious lesions were biopsied and sent to laboratory for histopathological studies. Their results were also recorded on the proforma. A total of 85 biopsies were included in the study.

Descriptive statistics were used to calculate Mean \pm SD of numerical data, e.g., age, duration of symptoms and laboratory results. Nominal data like gender, symptoms and colonoscopic findings were analyzed by their frequencies and percentages. Data was analyzed using SPSS version 10.

RESULTS

Study population included 105 patients, 28 women (26%) and 77 men (74%), with history of visible blood per rectum.

Mean age of the patients was 41.04 \pm 15.08 years (range: 19–70 yrs). Women and men were of comparable ages. Most of the patients (70%) were of

age 50 years or less. Mean duration of symptoms was found to be 11.32 \pm 6.48 months (range: 4–30 months). Mean haemoglobin of patients was 12.24 \pm 4.453 g/dL, (range: 9.4–15.3 g/dL).

Sixty-eight (68%) patients had a history of abdominal pain. History of diarrhoea was present in 46 (44%) where as history of weight loss was present in 23 (22%) patients.

Colonoscopy showed abnormalities in 84 patients (82%). The common finding was inflammation of the colon, which was noted in 58 patients (56%). Left sided colon was found most frequently inflamed. Histopathology of the biopsy specimen confirmed the diagnosis of ulcerative colitis in 48 patients (46%), while one patient was found to have Crohn's colitis. Nonspecific colitis was evident in 9 patients (8%). A growth was visible in 12 (10%) cases. One patient was having a growth in caecum, 3 in descending colon, 3 in sigmoid colon, 2 in rectosigmoid area and 2 in rectum. Histopathology revealed these growths to be malignant adenocarcinoma of colon. Less frequent findings included colonic diverticuli, solitary rectal ulcer, colonic polyps and telangiectasia descending colon. In 20 (18%) patients, no abnormality was seen on colonoscopy. These findings on colonoscopy and histopathology along with final diagnosis has been shown in Tables-1 and 2.

Table-1: Colonoscopic findings

Findings	Frequency	%
Normal	20	19.0
Lt sided colitis	20	19.0
Pancolitis	14	12.0
Proctitis	14	12.0
Proctosigmoiditis	9	8.5
Colonic diverticuli	7	7.0
Solitary rectal ulcer	5	5.0
Crohn's colitis	1	1.5
Growth caecum	1	1.5
Growth descending colon	3	2.5
Growth rectosigmoid	2	2.0
Growth rectum	2	2.0
Growth sigmoid colon	3	2.5
Polyp descending colon	1	1.5
Familial polyposis coli	2	2.0
Telangiectasia colon	1	1.5
Total	105	100.0

Table 2: Histopathological Findings

Findings	Frequency	Percent
Ulcerative colitis	48	46.0
Colorectal carcinoma	11	10.0
Nonspecific colitis	9	8.5
Colonic diverticular disease	7	6.5
Solitary rectal ulcer	5	4.5
Colonic polyp	3	2.5
Crohn's colitis	1	2.0
Telangiectasia colon	1	2.0
Biopsy specimen not taken	20	18.0
Total	105	100.0

DISCUSSION

Lower GI bleed, though less common than upper GI bleed, is a frequently encountered problem in general medical practice. Although most cases of rectal bleeding are due to self-limiting local anorectal conditions, it may also be the only sign of colorectal neoplasia.¹⁰ Most of the studies have been done in the West and a few studies in our region demonstrated a different etiological pattern as compared to western population. Zuckerman *et al*⁶ found diverticulosis being the commonest cause in USA, followed by carcinoma/polyp and then colitis/ulcers. Tan *et al*⁸ in Singapore and Khandelwal³ in India found different etiological frequencies in their countries respectively. Nasir *et al*⁹ in Nishtar Hospital Multan showed ulcerative colitis being the commonest followed by malignancy, amoebic colitis, polyps, angiodysplasia and diverticular disease. This study concurred the previous one as it has also demonstrated that diverticular disease and Crohn's disease are not common in our setup. Rather ulcerative colitis and malignancies are the leading colonic pathologies responsible for lower GI bleeding.

An important implication of finding abundant cases of ulcerative colitis and colorectal carcinoma is identification of patients having increased risk of carcinoma. Since patients with inflammatory bowel disease are at an increased risk of developing colorectal carcinoma (CRC), it is possible that most cases of CRC may have developed in the pretext of ulcerative colitis. Hence an important suggestion of this study is that patients with ulcerative colitis should be monitored cautiously for development of CRC. In this context surveillance colonoscopy has a very important role. Different authorities on the subject have suggested variable timeframes for such colonoscopy. A reasonable approach is to start surveillance colonoscopy after 8 yrs of developing pancolitis and 15 yrs of left sided colitis. It should then be repeated after every one or two years. Multiple biopsies should be taken and early dysplastic changes should be identified so that carcinoma can be diagnosed early and necessary remedial measures can be taken.

The diagnostic yield of colonoscopy in lower GI bleed has been found to be 82% which supports almost similar results in other studies, e.g., Chaudry *et al*¹¹: 95%, Jensen *et al*¹²: 74% and Cheung *et al*¹³: 79.5%.

Lower GI bleed is a disease of elderly in the West, with mean age of presentation being 59 years. This study revealed that it is prevalent in younger patients, as the mean age was 41 years. This reflects changing etiological patterns in our region compared to west; as inflammatory bowel diseases having their

onset usually between 15–40 years of age, being the foremost cause of lower GI bleed. However it is to be remembered that since the study was carried out in military hospital where most patients were young serving soldiers or their families, hence there was a source of bias and the results may not be truly reflecting the age-wise distribution of the problem. Among 48 patients diagnosed to be suffering from ulcerative colitis 36 were male and 12 were female; again confirming the predominance of male gender over the disease.^{13–18}

Although colonoscopy is the diagnostic investigation of choice today¹, 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.

In 18% of cases in this study, the exact cause of rectal bleeding remained unidentified even after visualizing the whole colon till caecum. Clinical evidence of obscure gastrointestinal haemorrhage ranges from 5–20% in different studies.^{14–16} A lesion higher up in the small intestine or stomach may have caused it, and other specialized techniques should be employed for a definite diagnosis.

Out of the 105 colonoscopies, there was not a single incidence of complication. However, the incidence of complications mainly perforation, in international literature is about 0.5%.⁵ Perhaps small number of procedures in relatively stable patients was the main cause and studies comprising large number of endoscopic procedures are required to determine the rate of complications of colonoscopy. Furthermore the exact timing of colonoscopy (elective vs. emergency), and treatment outcomes of various therapeutic procedures (sclerotherapy, coagulation etc.) performed during the colonoscopy are the main frontiers to be studied in future. 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.

CONCLUSION

Colonoscopy has a very high diagnostic yield and shall be considered as the investigation of choice in patients presenting with bleeding per rectum after local anorectal pathologies have been excluded by per rectal examination and proctoscopy. It is a safe procedure in experienced hands. Common colorectal pathologies prevalent in our population include ulcerative colitis, colorectal carcinoma and non-specific colitis, while diverticulosis, Crohn's disease, angiodysplasias and polyps are found less frequently. Furthermore bleeding per rectum afflicts

relatively younger patients in our country as compared to statistics in west. However findings of this study are required to be confirmed by similar studies inducting large number of patients.

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