



Evaluation of the Patient Characteristics and Colonoscopic Findings in Patients Presenting with Lower Gastrointestinal Bleeding in a North Indian Center

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Abstract

Lower gastrointestinal bleed (LGIB) may present as an acute life-threatening event, intermittent hematochezia or as chronic fecal occult blood loss. There is wide variation in the etiologies of lower gastrointestinal bleed reported from different regions. In this study we evaluated patient characteristics and colonoscopic findings of patients presenting with LGIB from our region. Materials and methods: This study was carried out in a tertiary care teaching hospital (in Punjab in northern India) on 100 patients presenting with visible or suspected LGIB. Patients with suspected upper gastrointestinal source of bleed and acute infectious bloody diarrhea were excluded from the study. Clinical details of all patients were noted. All patients underwent colonoscopy ± retrograde ileoscopy after standard preparation and findings were recorded. Results: A total of 100 patients (67 male and 33 female) with mean age 46.53 ± 17.34yrs were part of this study. Colonoscopy showed abnormal findings in 87% patients. The commonest diagnosis was ulcerative colitis, which was found in 29% patients. Second most common diagnosis was colorectal carcinoma found in 26% of the patients followed by haemorrhoids in 21% of the patients, colorectal polyps in 6% of the patients and non specific colitis in 5% of the patients. Anal fissure, solitary rectal ulcers and non specific ileitis were found in 2% of the patients each. Radiation proctitis and diverticulitis were found in 1% patient each. No lesion was found in 13% of the patients. **Conclusion:** Colonoscopy is an effective diagnostic tool in diagnosis of LGIB and it provided useful clinical information in majority of the patients. Our study reveals that ulcerative colitis, colorectal carcinoma, haemorrhoids and colorectal polyps are common causes of lower gastrointestinal bleeding in our region.

Keywords: Lower Gastrointestinal Bleeding, Colonoscopy, Inflammatory Bowel Disease, Colorectal Carcinoma, Hemorrhoids



INTRODUCTION

Lower gastrointestinal bleeding is defined as bleeding originating from a source distal to the ligament of Treitz.^[1] LGIB encompasses a wide clinical spectrum ranging from trivial bleeding to massive hemorrhage with shock.^[2] It can present as an acute and life threatening event or as chronic bleeding, which might manifest as iron deficiency anemia, fecal occult blood or intermittent scant hematochezia.^[3] In more than 95% of the patients with LGIB, the source of hemorrhage is colon. Therefore, colonoscopy is a useful tool in the diagnosis and management of LGIB.^[4] Incidence of LGIB in the western countries ranges from 20.5 to 27 cases/100,000 adults.^[5] Lower GI bleeding has an annual incidence of hospitalization of approximately 36/100,000 population and the colonoscopy is a primary method of investigation in presence of bleeding from lower GI tract.^[6,7,8] The most common cause of LGIB in UK is diverticular bleeding and the second most frequent diagnoses are hemorrhoids, fissures and rectal ulcers.^[8] In Asia, however, colon diverticulosis is not common and is a much less common cause of LGIB. In the Indian experience, the etiology of LGIB differs significantly in different geographical areas. Growth/ polyp are the most common colonoscopic findings in Jammu and Kashmir, followed by inflammatory bowel lesions.^[7] Internal hemorrhoid is the most common cause of LGIB followed by ulcerative colitis in South India.^[9] A study from Sub-Himalayan north Indian reported hemorrhoids (19.5%), inflammatory bowel disease (19.5%), colorectal carcinoma (17.4%), infective causes (11.6%), and radiation proctitis (9.4%) as the causes of LGIB.^[10] So there is wide variation in etiologies of LGIB reported from different

regions of India. There is a paucity of data on colonoscopic and clinical profile of patients with LGIB from this part of India and therefore, this study was planned to obtain this important data.

MATERIALS AND METHODS

This observational prospective study was carried out on 100 consecutive patients presenting with LGIB in a tertiary care teaching hospital situated in northern region of Punjab in north India. Informed and written consent was obtained from every participating patient and study was cleared by ethical committee of our institute.

All patients more than 18 years of age attending our endoscopy unit with the complaint of visible bleeding per rectum or suspected LGIB (unexplained iron deficiency anemia with or without fecal occult blood positivity) were included in this study. Patients with upper gastrointestinal bleeding, children and patients refusing consent were not included in this study. Patients who were hemodynamically unstable and were unfit for colonoscopy were also excluded from this study. Those who fulfilled the selection criteria were explained about the procedure and were subjected to the colonoscopy after standard colon preparation with polyethylene glycol (PEG) solution. Procedure was performed under conscious sedation with midazolam and any abnormal lesion(s) was biopsied and sent for histopathology. Clinical details and endoscopic findings were noted down. The collected data was coded and entered into the Microsoft Excel spreadsheet. The categorical data was expressed as rates, ratios and percentages and continuous data was expressed as mean \pm standard deviation.

RESULTS

A total of 100 patients presenting with of LGIB were included in this study. The mean age in the study population was 46.53 ± 17.34 years and the male to female ratio was 2.03:1 (M= 67, F= 33). Epidemiological and clinical profile of patients is shown in **Table 1**. Majority of patients presented with hematochezia (89%), 2% patients had melena only while 9% patients reported both. Nineteen percent patients gave history of frequent use of NSAIDs while 7% patients were on daily long term antiplatelet drugs (Aspirin). History of tobacco use was given by 15% patients and 20% patients were consuming significant alcohol regularly.

Most common lesion observed on colonoscopy was ulcerative colitis and was seen in 29% of the patients with LGIB. Second most common lesion was colorectal carcinoma and was seen in 26% of the patients. Hemorrhoids were seen in 21%, colorectal polyps in 6% of the patients and non specific colitis was found in 5% of the patients. Anal fissure, solitary rectal ulcers and non specific ileitis were found in 2% of the patients each. Radiation proctitis and diverticulitis was found in 1% of the patients each as shown in **Figure 1**. No lesion was found on colonoscopy in 13% of the patients. Eight patients had more than one lesion on colonoscopy as shown in Table 2. Colorectal carcinoma, anal fissure, non specific colitis, diverticulitis, colorectal polyps were more common in male patients while hemorrhoids, ulcerative colitis, solitary rectal ulcer, radiation proctitis and non specific ileitis were more common in females (**Table3**). On analyzing the extent of disease among the patients of ulcerative colitis, pancolitis was seen in 50% of the patients, left sided colitis in 32.14% patients and proctitis was seen in 17.85% of the patients

as shown in **Figure 2**. Among the patients with colorectal carcinoma, rectum was found to be the most common site of colorectal carcinoma afflicting 46.15% of the patients. Sigmoid colon was site of carcinoma in 15.38%, descending colon and transverse colon in 11.53% each while ascending colon and caecum was involved in 7.69% of the patients each (**Figure3**).

Table 1: Epidemiological and clinical profile of the patients

Clinical Parameter	Number of patients	Percentage of patients
Males	67	67.0
Females	33	33.0
Hematochezia	89	89.0
Melena	2	2.0
Hematochezia and melena	9	9.0
History of NSAIDs use	19	19.0
History of Antiplatelet drugs use	7	7.0
History of significant alcohol intake	20	20.0
History of smoking	15	15.0

Figure 1: Colonoscopic findings in patients presenting with LGIB

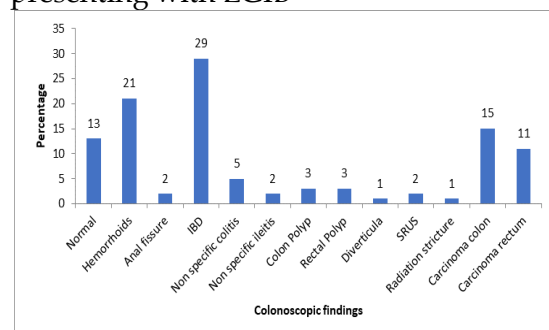


Table 2: Patients with two findings on colonoscopy

Hemorrhoids and IBD	2
Hemorrhoids and SRUS	2
Hemorrhoids and Carcinoma Rectum	1
Hemorrhoids and Rectal polyp	1
Diverticulosis and Carcinoma colon	1
Rectal polyp and Anal fissure	1

Table 3: Genderwise distribution of various colonoscopic findings

Conoscopic findings	Male (n=67)		Female (n=33)	
	Number	%	Number	%
Normal	8	11.94	5	15.15
Hemorrhoids	13	19.40	8	24.24
Anal fissure	2	2.98	0	0.0
Ulcerative colitis	19	28.35	10	30.30
Non specific colitis	5	7.46	0	0.0
Non specific ileitis	1	1.49	1	3.03
Colorectal polyps	5	7.45	1	3.03
Solitary rectal ulcer	1	1.49	1	3.03
Radiation stricture	0	0.0	1	3.03
Diverticulitis	1	1.49	0	0.0
Colorectal carcinoma	18	26.85	8	24.24

Figure 2: Extent of involvement of colon in Ulcerative Colitis patients

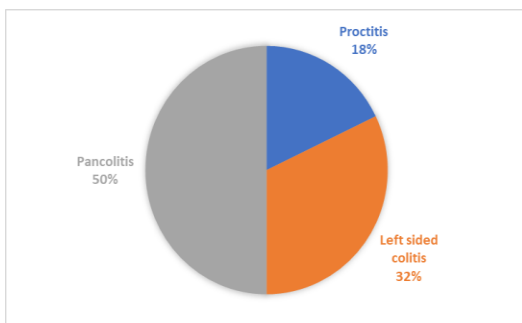
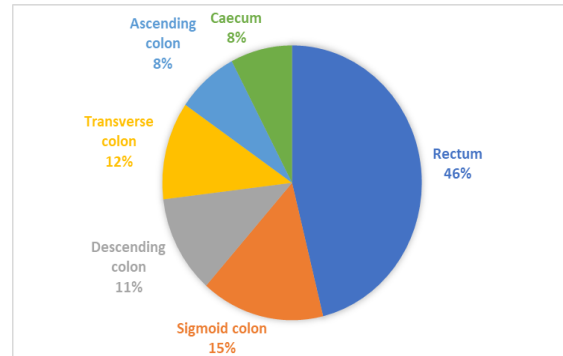


Figure 3: Distribution of neoplastic lesions in colon and rectum in patients with colorectal carcinoma



DISCUSSION

In our study, mean age of patients presenting with LGIB is 46.53+17.34 years and is similar to the figures reported by various studies from India and other countries.^[10,11,12] Majority of our patients were males and male to female ratio was 2.03: 1. A similar male preponderance was seen in various studies conducted in India and abroad.^[10,11,12]

In this present study hematochezia was observed in 89% patients while 2% patients had melena and 9% had both. Comparable results were observed in Saudi Arabia by Alruzug IM et al,^[13] who reported hematochezia in 90% and melena in 10% of the patients. Similarly, studies from India and other countries have observed hematochezia as the predominant complaint of LGIB such as Gokak VP et al from India and Kassim A et al from Yemen.^[14,15] History of NSAIDs in take was observed in 19% of the patients presenting with LGIB in our study. It is comparable to the study done in Iceland by Hreinsson JP et al,^[16] in which NSAID use was present in 19% of patients presenting with LGIB. Use of antiplatelet drugs is common for different



reasons by patients for various ailments. In present study Anti platelets use was found in 7% of the patients. It is comparable to a study in Iceland by Hreinsson JP et al,^[16] in which they found use of anti-platelets in 6% of the patients presenting with LGIB. In our study significant alcohol consumption was found in 20% of the patients while smoking was found prevalent in 15% of the patients. A study done in India by Hajare S et al,^[11] found intake of alcohol in 18% of the patients and smoking in 20% of the patients, Gokak VP et al,^[13] in South India found alcohol intake in 12% and smoking in 16% of the patients. These studies had shown similar prevalence as the present study.

In this study, Ulcerative colitis was the most common finding on colonoscopy and was seen in 29% patients presenting with LGIB. Other common findings were colorectal carcinoma seen in 26% patients, hemorrhoids in 21 patients, colorectal polyps in 6% patients and nonspecific colitis in 5% patients. Nonspecific ileitis, anal fissure and solitary rectal ulcers were found in 2% patients each while radiation proctitis and diverticulitis was found in 1% patient each. IBD was found in 33.4 % of the patients in a study done by Alobaidi QA et al in Iraq which is comparable to the present study.^[17] Jehangiri AU et al found IBD in 17.1 % in a study done in Pakistan,^[18] However Makkie A.K. et al,^[13] in Iraq found IBD in 7.5 % of the patients and e Benevides IBS found IBD in 7.4% of the patients in a study conducted in Brazil.

The prevalence of colorectal carcinoma was found in 21.8% of the patients in a study conducted by Alobaidi QA et al,^[17] in Iraq. It is comparable to our study in which we found colorectal carcinoma in 26% of the patients. However lower prevalence of colorectal

carcinoma was reported by Makkie A.K. et al,^[12] in Iraq (10.8 %), e Benevides IBS¹ in Brazil (10.2%) and Jehangiri AU et al in Pakistan (7.4%).^[18]

Haemorrhoids were found in 22.3 % of the patients in a study by Jehangiri AU et al,^[18] conducted in Pakistan which is comparable to the present study as we had 21% patients of hemorrhoids presenting with lower gastrointestinal bleeding. Makkie A.K. et al,^[12] found significantly high prevalence of hemorrhoids (64%) in a study conducted in Iraq. No lesion was seen in 13% of the patients in the present study and is comparable to a study conducted in Pakistan where 14.3% of the cases had normal colonoscopy.^[18]

Colorectal polyps were found in 6% of the patients in our study. Comparable prevalence was reported by eBenevides IBS,^[1] in Brazil and Makkie A.K. et al,^[12] in Iraq *i.e* 5.6% and 9% respectively. However higher prevalence was reported in some other studies such as Jehangiri AU et al,^[18] in Pakistan reported it in 14.3% and Alobaidi QA et al,^[17] in Iraq reported it in 16.2 % of the patients.

In our study nonspecific colitis was found in 5% of the patients as an etiology of LGIB and comparable result (5.6%) was found in a study in Iraq by Alobaidi QA et al.^[17] Solitary Rectal ulcers were seen in 2% of the patients in this study and is similar prevalence reported by Makkie A.K. et al,^[13] (2%) and Alobaidi QA et al (2.3%).^[17] Prevalence of anal fissure was 2% in our study and 5.4% in a study by Makkie A.K et al.^[12]

Diverticulae were present in 1% of the patients in the present study while it was not reported by most Indian studies. Alobaidi QA et al,^[17] in Iraq reported diverticulosis in 5% of the

patients while eBenevides IBS¹ reported it in 54.4 % of the patients in a study done in Brazil. The variation in the result can be explained by the fact that diverticulosis is more common cause of LGIB in western culture.

Among 29 patients of Ulcerative colitis, pancolitis was found in most of the patients i.e. 48.27%. This result is comparable to a study by Adibi P et al,^[19] done in Iran in which pancolitis was found in most of the patients (62%). Left sided colitis was present in 32.14% of the patients and proctitis was present in 20.68% of the patients in our study, Adibi P et al,^[19] reported left sided colitis in 34.4% of the patients and proctitis in 3.4% of the patients showing the similar results. A study by Younis HA et al,^[20] in Egypt reported left sided colitis being the commonest finding in 50% of the patients while pancolitis in 13.33% of the patients and proctitis in 3.33% of the patients.

In our study, carcinoma of rectum was found most common site of involvement of neoplastic lesions with 46.13% of the prevalence. It is comparable to a study done in Iran by Bafandeh Y, Daghestani D et al,^[21] who found prevalence of carcinoma rectum in 42.6% of the patients of colorectal carcinoma. Similarly e Benevides IBS et al in Brazil had also reported 46% prevalence of rectal carcinoma. Carcinoma involving sigmoid colon was found in 15.38% of the patients in the present study. However, it was found as 27% in a study by e Benevides IBS et al in Brazil and 30% in Iran in a study by Bafandeh Y, Daghestani D et al.^[21] Descending colon was involved in 11.53% of the patients with carcinoma colon. It was comparable to the 9.1% prevalence in a study by Bafandeh Y et al,^[21] and 9% prevalence in a study by e Benevides IBS et al.^[1] Both of the studies had comparable

results. Transverse colon was involved in 11.53% of the patients of colorectal carcinoma in our study while it was present in 3.5% of the patients in a study done by Bafandeh Y et al.^[21] Carcinoma ascending colon was found in 7.69% of the patients in our study. Bafandeh Y et al,^[21] also found it in 8.4% in Iran. However a study done by e Benevides IBS et al,^[1] had shown a slightly higher prevalence with the involvement of ascending colon in 18% of the patients. Carcinoma caecum was found in 7.69% of the patients and comparable prevalence was reported by Bafandeh Yet al,^[21] who found it in 6.3% of the patients in Iran.

Limitations of the study: We recognize the some limitations of our study. The most important of them being that sample size though adequate for detection of endoscopic lesions, was inadequate for the subgroup analysis. The present study was a single center study and hence not reflects the wider population of this region.

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- Abbreviations: LGIB: Lower gastrointestinal bleeding, SRUS: Solitary rectal ulcer syndrome, NSAIDs: Non-steroidal anti-inflammatory drugs
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