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Original Article

Etiology, clinical presentation, diagnosis and management of lower gastrointestinal bleed in a Tertiary Care Hospital in India: A retro-prospective study

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Abstract

Introduction: Lower gastrointestinal bleeding (LGIB) is one of the leading causes for hospital admissions in gastroenterology wards all over the world. Patients usually present with hematochezia or bloody diarrhea. Colonoscopy is usually the initial diagnostic intervention followed by other more sophisticated tests. Bleeding may stop spontaneously, but evaluation is important because patients may harbor a sinister lesion like cancer. **Aim of the Study:** To determine the various etiologies, clinical presentations, a diagnostic test used and treatments received by LGIB patients admitted in our department. **Materials and Methods:** A total of 300 cases were studied which included 180 retrospective cases and 120 prospective cases. For retrospective cases, all the information was obtained by analyzing their case records while as prospective patients were managed as per a predefined protocol and details of various investigations and treatments documented. **Results:** Most commonly affected was elderly population (>60 years), constituting 40% (120/300) of studied population. Males constituted 59% (177/300) and females 41% (123/300). The most common clinical presentation of LGIB in our patients was hematochezia (63.6%, 191/300). Growth/polyp was the most common finding on colonoscopic examination seen in 29.3% ($n = 88$) patients. Inflammatory lesions were seen in 77 out of 239 (25.7%) patients. Wireless capsule endoscopy was positive in 13 out of 24 patients (54%). Computed tomography (CT) enterography showed positive results in 6 out of 25 (24%) cases. Red blood cell scan was done in seven patients while as CT angiography in in four patients. Therapeutic endoscopy was successful in 115 out of 239 patients with positive colonoscopy, polypectomy was the commonest procedure performed. Medical management was carried out in 34.6% patients. Surgical treatment was offered to 21% patients. **Conclusion:** Colonoscopy is the initial and most common investigation used in the evaluation of GI bleed. A polyp is the most common diagnosis while as polypectomy the most common therapeutic procedure.

Key words

Capsule endoscopy, colonoscopy, hematochezia, lower gastrointestinal bleed, red blood cell scan, polypectomy

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Introduction

Lower gastrointestinal bleeding (LGIB) refers to blood loss of recent onset originating from a site distal to the ligament of Treitz.[1] Hemorrhage from the lower gastrointestinal (GI) tract accounts for about 20% of all cases of acute GI bleeding.[2-4] Acute LGIB is defined as bleeding of recent duration (arbitrarily designated as <3 days) and might result in instability of vital signs, anemia and/or the need for blood transfusion.[5] Chronic LGIB is the passage of blood from the rectum over a period of several days or longer and usually implies that blood loss is intermittent or slow. Alternatively, however, LGIB can be subdivided into two categories: Clinically overt GI bleeding (malena, hematochezia) or occult bleeding identified by an unexplained iron deficiency and/or positive fecal occult blood testing result.[6] The incidence of LGIB in the west ranges from 20.5 to 27 cases/100,000 adults. In comparison with the west, in the Indian experience, patients are younger, localization is possible in a majority of patients, mortality is lower and re-bleed rate is only 4%.[7] Compared with acute upper GI (UGI) bleeding, patients with acute LGIB are significantly less likely to experience shock (35% vs. 19%, respectively), require fewer blood transfusions (64% vs. 36%) and have a significantly higher hemoglobin level (61% vs. 84%).[8] Colonic bleeding necessitates fewer blood transfusions compared with bleeding from the small intestine. The overall mortality rate ranges from 2% to 4%.

The etiology and the epidemiology of LGIB varies according to the environmental conditions depending upon the life style, dietary habits, the prevalence of smoking, history of drug intake, age, longevity of the population, etc. Most of the data from the west suggests that colonic diverticula are the most frequent source of LGIB followed by angiodysplasias, colitis (ischemic, infectious, chronic inflammatory bowel disease [IBD]), neoplasms, small bowel bleeding and postpolypectomy bleeding. However, in the Indian experience, the etiology differs significantly.[9] Nonspecific ulcers account for 30% of cases while as the rest are enteric ulcers 15%, tubercular ulcers 6%, neoplasm 6%, amoebic ulcers 6%, angiodysplasia 6% and others.[10] Colonoscopy is the most convenient and effective preliminary investigation. Actual visualization during the acute episode is uncommon because the view is poor. While some authors advocate early colonoscopy in an unprepared bowel, others advise a more expectant approach.[11] In a study on colonoscopy without any bowel preparation, it was concluded that the procedure was safe and accurate and allowed the performance of therapeutic procedures with minimal complications. Accurate localization of lesions was possible in 97% of patients.[12] Virtual colonoscopy (includes computed tomography [CT] and magnetic resonance [MR] colography) is noninvasive but its results are inferior to colonoscopy.[13] Selective visceral angiography and radioisotope scanning may be viewed as complementary investigations in the preoperative localization of a bleeding site.[14] 99mTc-radiolabelled sulfur colloid does not localize the exact bleeding site but can detect bleeding (active) as slow as 0.1–0.5 ml/min. Angiography can detect a bleeding source if the rate of bleeding is 0.5–1 ml/min. Its localization is accurate, and it also offers therapeutic options (embolization and the use of therapeutic drugs such as vasopressin). Bleeding from the small bowel is notorious for its difficulty in diagnosis. Push enteroscopy with pediatric colonoscopes is probably the most widely available endoscopic method of examining the small bowel.[15] A double-balloon enteroscope was introduced in 2001. Intraoperative enteroscopy with per-oral intubation passage through the small bowel guided by the surgeon is still considered the gold standard of examination of the small bowel for bleeding. Wireless capsule endoscopy (WCE) involves swallowing a battery-powered pill-sized camera by the patient who sends wireless images to a data recorder as it traverses the bowel.[16] Barium examination of the small bowel and colon has not been found to be especially useful in the investigation of LGIB. Small bowel enteroclysis (delivery of contrast via per-oral intubation of the small bowel) gives a more accurate exam than barium swallow.[17] Active treatment is necessary for a small group of patients because, in the majority, bleeding stops spontaneously. The treatment options available are therapeutic colonoscopy or angiography and surgery. The various colonoscopic therapeutic modalities currently in use are injection, laser coagulation electrocautery and "heater probe." Surgical treatment is reserved for those who continue to bleed or re-bleed after initial cessation.

The data regarding epidemiology and management of LGIB is scarce from the Indian subcontinent. In this regard, we conducted a study in gastroenterology department in one of the busiest tertiary care hospitals of North India, Sheri Kashmir Institute of Medical Sciences, Jammu and Kashmir.

Aims and objectives

To study the various etiologies, clinical presentations, diagnostic modalities used, and treatments received in LGIB patients in a tertiary care institution.

Materials and Methods

The present study is both a retrospective as well as prospective study, conducted in the Department of Gastroenterology, Sheri Kashmir Institute of Medical Sciences Srinagar Jammu and Kashmir, one of the busiest tertiary care health institutions of North India catering to the needs of about 13 million people.

Retrospective group

The retrospective group included patients who had been admitted and evaluated in the department for LGIB from January 2005 to June 2011. All available records were analyzed to obtain the following: Age at presentation, sex, history of nonsteroidal anti-inflammatory drugs

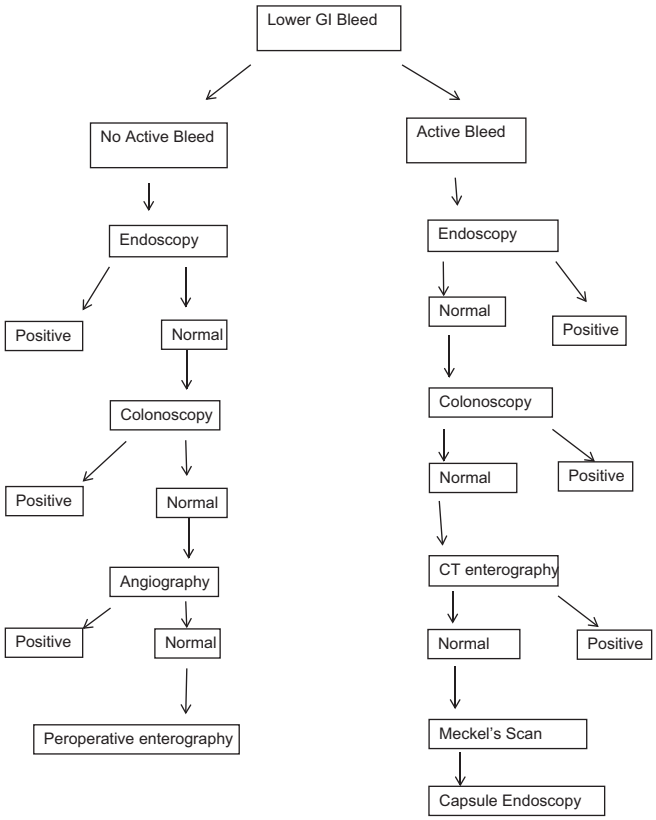
intake, any other drug interfering with platelet function or causing coagulopathy, any bleeding diathesis, need for blood transfusion, laboratory investigations such as complete blood count, coagulogram, liver function test, kidney function test, and other relevant investigations. The findings at endoscopy, colonoscopy, peroperative enterography, CT/MR enterography, CT angiography (CTA), red blood cell (RBC) scintigraphy, and capsule endoscopy etc., when done were entered in the proforma. Treatment received by the patients during hospital stay was also documented.

Prospective group

The prospective group included patients who presented to the department from July 2011 to July 2013 and were admitted and evaluated for LGIB. For these patients, detailed history (including the history of drug intake, bleeding diatheses, etc.) and physical and systemic examinations was performed. Complete blood count, coagulation profile, renal and liver function test and other relevant baseline tests were done. Procedures such as colonoscopy, UGI endoscopy, CTA, CT/MR enterography, RBC scintigraphy, and preoperative enterography were performed as per requirement from diagnostic as well as the therapeutic standpoint. Informed written consent for all invasive procedures was taken. All the patients with LGIB received supportive measures in the form of intravenous fluids, blood transfusion as required, correction of metabolic and electrolyte abnormalities. Endoscopic hemostasis was achieved by injection therapy (include sclerosants, epinephrine, etc.), contact and non-contact thermal coagulation, photocoagulation, hemoclips, mechanical devices such as metallic clips and band ligation. Finally, those patients with uncontrolled bleeding not responding or amenable to endoscopic treatment were taken for surgery, and the intraoperative findings were duly noted. Similarly patients, who could be managed with medical treatment only like IBD and infective colitis, were offered same and those with an undetermined etiology were managed with supportive care like blood transfusions and other symptomatic measures.

Diagnostic protocol

Following algorithm was used in the evaluation of patients with LGIB.



Statistical methods

Summary statistics for quantitative data will be the mean and standard deviation (SD) presented as "mean (SD)." Quantitative data between two treatment groups was compared with the use of Student's *t*-test for parametric data and Mann–Whitney *U*-test for nonparametric data. Pearson Chi-square test or Fisher's exact test was used for categorical data. All *P* values are two-tailed; $P < 0.05$ was considered statistically significant. All statistical analysis was performed with a Statistical Software Program (IBM Corp. Released 2013. IBM SPSS Statistics for Windows, Version 22.0. Armonk, NY: IBM Corp).

Results

Baseline characteristics

A total of 300 patients who met inclusion criteria were included in the study. There were 180 retrospective cases (June 2000–June 2011) and 120 prospective cases (July 2011–July 2013). The baseline characteristics of our patients are given in Table 1. Age of patients ranged from 1 to 85 years with mean age of 40.8 years. LGIB was seen to affect individuals of all ages. However most commonly affected was elderly population (>60 years), constituting 40% (120/300) of studied population. Least commonly affected were young adults (16–60 years) comprising 26.6% (80/300) of the studied population while as children comprised a significant proportion of LGIB (33.3%, 100/300). Males constituted 59% (177/300) and females 41% (123/300). Underlying comorbid condition was seen in 16.7% (50/300) patients. Biochemical coagulopathy was seen in 2.3% (7/300) patients. Out of these, four patients had the chronic liver disease (CLD) and one had chronic kidney disease (CKD) while as two patients were on anticoagulants for underlying atrial fibrillation. Blood transfusions were required in 34.7% (104/300) patients; out of these 13 patients (4.3%) had massive bleeding and required more than three transfusions in initial 24 h of hospital stay.

Clinical presentations of lower gastrointestinal bleeding in our patients

The most common clinical presentation of LGIB in our patients was hematochezia (63.6%, 191/300), followed by bloody

diarrhea (17%, 51/300) and anorectal bleed (12.3%, 37/300). Least common presentation was malena (7%) (21/300).

Diagnostic modalities used during evaluation of lower gastrointestinal bleeding in our patients

A total of 273 patients were recruited for colonoscopy. Out of these, the cause of LGIB could be localized in 239 patients (87.5%). Various colonoscopic findings seen in our patients are given in Table 2 and Figures 1and 2. Growth/polyp was the most common finding on colonoscopic examination seen in 29.3% (n = 88) patients. Inflammatory lesions were seen in 77 out of 239 (25.7%) patients. Ulcerative lesion, angiodysplasia and diverticulosis was seen in 10.3% (n = 31), 8.3% (n = 25), 6% (n = 18) of cases respectively. Patients who bled intermittently and bleeding was not significant, capsule endoscopy WCE and CT enterography (CTE) were under-taken. WCE was positive in 13 out of 24 patients (54%). Most of the patient had small gut ulcers, 3 out of 13 patients had angiodysplasia in ileum and 1 had ileal diverticulosis [Figure 3]. CTE showed positive results in 6 out of 25 (24%) cases. Amongst these, 4 patients had Crohn's disease involving terminal small gut while as 1 out of 6 patients had ileal tuberculosis which was proved by corroborative evidence of high

Table 1: Baseline investigations

Parameter	*n* (%)
Cases	
Retrospectives	180 (60)
Prospective	120 (40)
Age (years)	
<15	100 (33.3)
16-30	26 (8.7)
31-60	54 (18)
>60	120 (40)
Sex	
Male	177 (59)
Female	123 (41)
Clinical presentation	
Malena	21 (7.0)
Hematochezia	191 (63.7)
Bloody diarrhea	51 (17.0)
Anorectal bleeding	37 (12.3)
Comorbidities	
No comorbidity	250 (83.3)
Hypertension	17 (5.7)
Diabetes	3 (1.0)
Hypertension and diabetes	25 (8.3)
Others (CLD, CKD)	5 (1.7)
Blood transfusion required	
Yes	104 (34.7)
No	196 (65.3)
Coagulopathy	
Absent	293 (97.7)
Present	7 (2.3)

CKD=Chronic kidney disease, CLD=Chronic liver disease

Table 2: Colonoscopic findings and their frequency

Colonoscopic finding	Frequency	Percentage	Valid percentage	Cumulative percentage
Not done	27	9.0	9.0	9.0
Normal	34	11.3	11.3	20.3
Ulcer	31	10.3	10.3	30.7
Growth/polyp	88	29.3	29.3	60.0
Inflammation	77	25.7	25.7	85.7
Vascular lesion	25	8.3	8.3	94.0
Diverticulosis	18	6.0	6.0	100.0
Total	300	100.0	100.0	

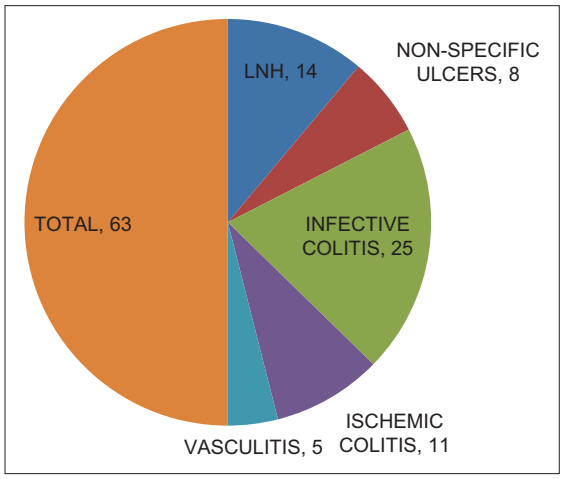


Figure 1: Causes of lower gastrointestinal bleeding labeled "others" in above table

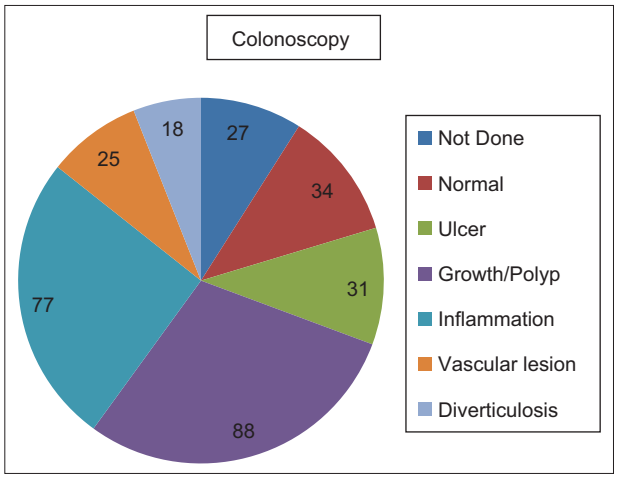


Figure 2: Frequency of colonoscopic findings

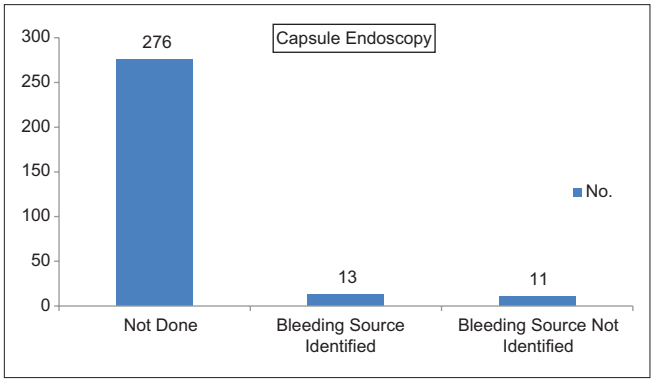


Figure 3: Results of capsule endoscopy

erythrocyte sedimentation rate, montaux positivity and successful treatment with antitubercular therapy [Figure 4]. Patients with significant and persistent bleeding were recruited for a nuclear scan and CTA. RBC scan was done in seven patients while as CTA in four patients. RBC scan revealed a bleeding source in four out of seven patients (57%), while CTA was positive in 25% (1/4) patients [Figure 5]. Three patients in whom RBC scan was positive proved to be Meckel's diverticulitis. The other one had small gut lymphoma. Peroperative enteroscopy was undertaken in three patients. The culprit lesion was localized to terminal ileum in all the three. Two had nonspecific ulcers, and one had ileal maltoma [Figure 6].

Etiology of lower gastrointestinal bleed in our patients

Causes of LGIB seen in our study population are given in Table 3. The most common cause of LGIB in our population was colorectal polyps, which constituted 23.3% (n = 70) while as 17.7% (n = 53) cases could be attributed to IBD. Colorectal malignancy, seen mostly seen in middle aged and elderly, constituted 12% (n = 36). Angiodysplasia, Diverticular disease (including Meckel's diverticulum [n = 5]), and hemorrhoids comprised 9% (n = 27), 8% (n = 24) and 5.3% (n = 16) cases respectively. Other causes such as lymphoid nodular hyperplasia (LNH) ([n = 14] [exclusively seen in children]), nonspecific ulcers (n = 8), infective colitis (n = 25), Ischemic colitis (n = 11), and vasculitis (n = 5) collectively constituted 21% (n = 63) [Figure 1]. Around 3.7% (n = 11) cases were labeled as undiagnosed even after sophisticated investigations like WCE.

Treatment received by our patients

Various treatment modalities used in the management of LGIB in our patients are given in Table 4 and Figure 7. Therapeutic endoscopy was successful in 115 out of 239 patients with the positive colonoscopy [Figure 8]. Polypectomy was the commonest procedure performed (70/115), followed by injection therapy (34/115) and electro-coagulation (11/115). Medical management was carried out in 34.6% (104/300) patients. These included mostly the patients with IBD, infectious colitis, LNH, and few early hemorrhoids. Surgical treatment was offered to 21% (63/300) patients. This group included the patients with resectable colorectal malignancy, Meckel's diverticulitis and few cases of persistent undiagnosed LGIB. Patients with advanced colorectal cancers, undiagnosed insignificant intermittent bleeding were managed symptomatically. These patients constituted 6.3% (19/300) of our study population.

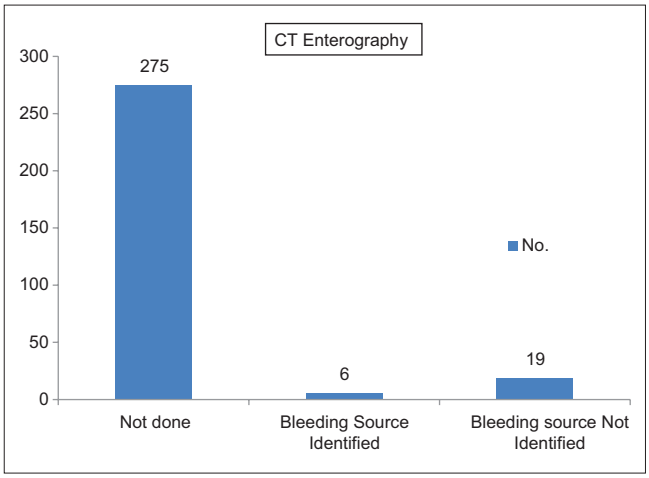


Figure 4: Results of computed tomography-enterography

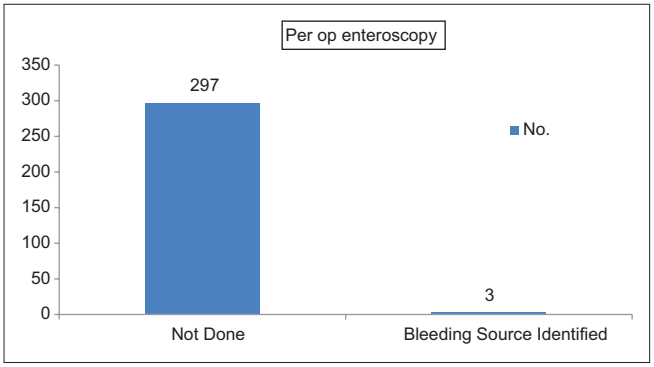


Figure 6: Results of peroperative enteroscopy

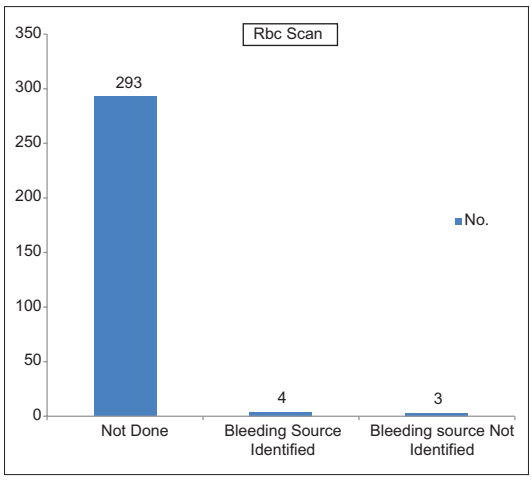


Figure 5: Results of red blood cell scans

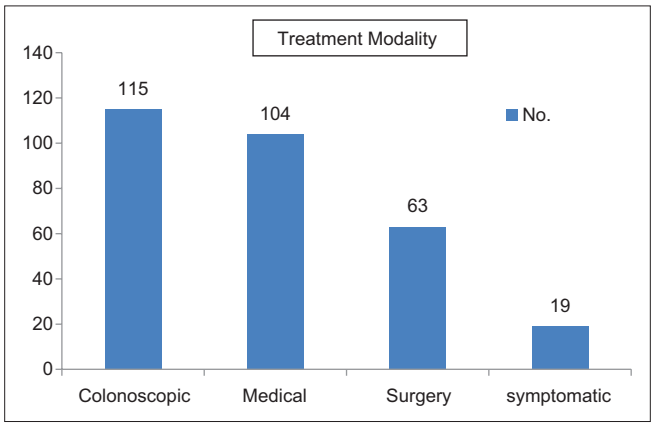


Figure 7: Various treatment modalities used in our patients

Discussion

LGIB predominantly afflicts an older population with a mean age of >65 years in most studies.[18,19] The annual incidence rate of hospitalization for LGIB increases from 1/100,000 patients in the third decade of life to over 200/100,000 in patients in the ninth decade. In our study also, the older population (>60 years old) was the predominant population group involved, constituting 40% of the studied population. Least commonly affected were young adults comprising 26.6% while as children comprised a significant proportion of LGIB (33.3%). Concurrent with the older age distribution is a significant burden of comorbid illness. Studies reveal that at least 70% of patients with LGIB have at least one coexistent comorbid condition.[20] These comorbidities may themselves be increase the risk of bleeding, e.g., due to vasculopathy or the drugs (e.g., antiplatelets, anticoagulants used for treating such illnesses may give rise to bleeding). In our study, 16.7% patients had underlying comorbidities such as hypertension, diabetes mellitus, CKD, and CLD. Hypertension was the most common comorbidity seen in our patients seen in 14% patients while as 9.3% had more than one comorbidity. The lower incidence of comorbid illnesses in our study group is possibly due to a significant proportion of children and young adults in our study as compared to other studies. Men are usually affected more commonly than women. In our study also, LGIB was more commonly seen in men as compared to women (59% vs. 41%).[21] Little information exists regarding the racial differences in LGIB. Diverticular disease, the most common cause of LGIB in the United States, is primarily a disease of western cultures. However, this geographic variation is highly influenced by diet and lifestyle factors.

Most patients with LGIB usually present with hematochezia; however, a significant group presents with bloody diarrhea and anorectal bleed. Malena is seen only in a small group of patients, bleeding in such cases usually originates from the small bowel. This difference in presentation is usually explained by the different locations of bleeding source. No definitive studies exist to exactly quantify the magnitude of different presentations. In our study, the most common mode of presentation of LGIB was hematochezia seen in 63.3% patients followed by bloody diarrhea (17%), anorectal bleed (12.33%), and malena (7%). Because massive UGI bleeding (UGIB) can masquerade as LGIB, the initial evaluation should also include the placement of a nasogastric tube and gastric lavage along with UGI endoscopy to identify a possible UGIB source. Most patients with LGIB stop bleeding spontaneously; therefore, it can be difficult to determine the source of acute bleeding. Thus, identification of the bleeding source remains a diagnostic challenge. Approximately, 10% of all patients will never have a source identified, and up to 40% of patients with LGIB have more than one potential bleeding source. Colonoscopy is usually the initial diagnostic method used in the evaluation of LGIB as it is almost universally available and cheap as compared to other diagnostic methods and besides also provides an opportunity to tackle the bleeding source as well. In our study, colonoscopy was the most frequently used initial diagnostic modality, with the ability to establish the bleeding source in 87.5% cases[Figures 9-11]. Similar results have been reported by Jensen and Machicado and Strate and Naumann, who found the composite diagnostic yield of 91% and 82% for colonoscopy respectively.[22] CTA and nuclear scan were positive in 25% and 57% of patients,

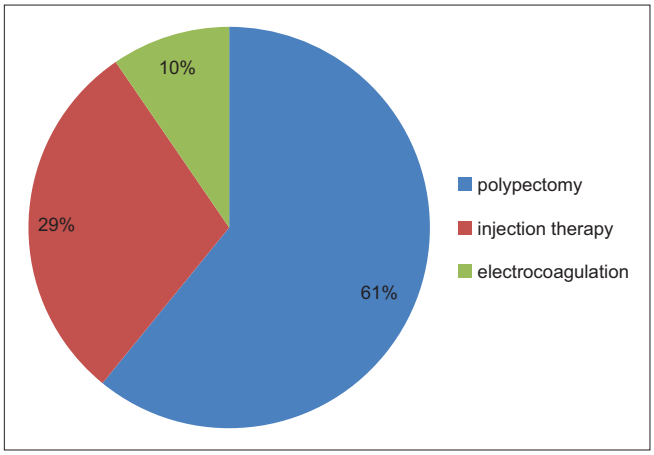


Figure 8: Various endoscopic therapeutic modalities used in our patient population

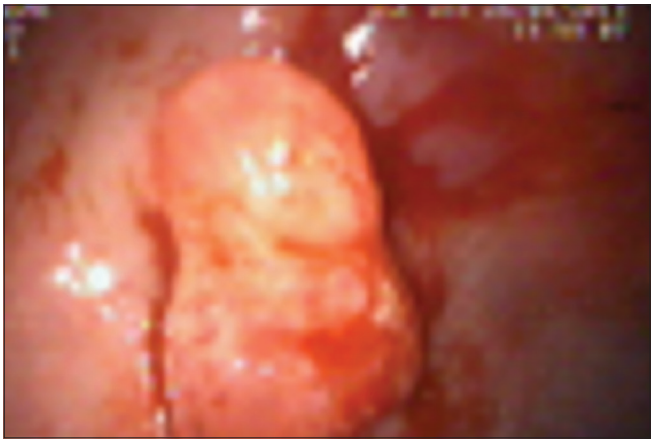


Figure 9: Bleeding colonic polyp

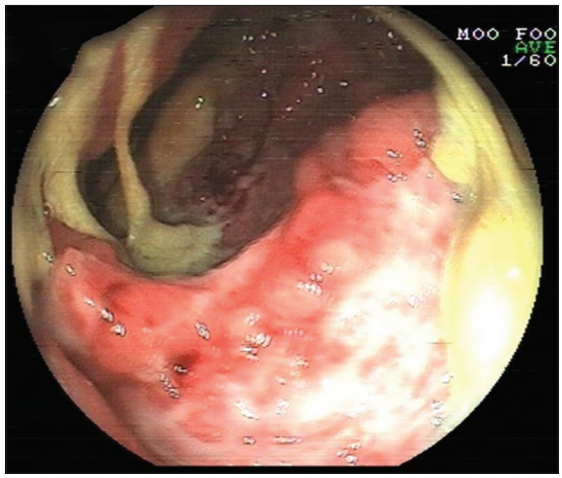


Figure 10: Bleeding ulcero infiltrative colonic malignancy

respectively. These findings are in agreement with the study done by Al Qahtani *et al*. and Dolezal *et al*., who found that CTA and RBC scan were able to localize the bleeding in 19% and 57.5% cases, respectively.[23,24] In another retrospective study, Browder *et al.* showed that CTA had a sensitivity of 35% in localizing the source of bleed. Capsule endoscopy has recently come as an important tool for localizing the bleeding source in occult GI bleed.[25] Sodhi *et al*. have shown the overall sensitivity of capsule endoscopy in detecting the source of GI bleed to be 48%. In our study, Capsule Endoscopy revealed the source of bleed in 54% while as CT Enterography showed bleeding lesion in 24% [Figures 12-14].[26] Similar results have also been shown by Leung *et al*., who found that sensitivity of capsule endoscopy in localizing the bleeding source in LGIB as 53.3% and Hara *et al*. found CT enterography for detecting GI bleeding as 33% sensitive.[27,28] The last and not the least resort to localize the source of bleeding is intraoperative endoscopy. Zaman *et al*. found that the diagnostic yield of intraoperative enteroscopy was 66.6%; however, our study showed that intra-op enteroscopy was diagnostic in 100% (3/3) cases. This difference could be due to the small sample size and difference in the nature of culprit lesions.[29]

The older age distribution reflects the most common causes of LGIB (e.g., diverticulosis, ischemic colitis) that tend to occur with aging. However, there are differences between western countries and developing countries with regards to different etiologies of LGIB. This difference could be attributed to genetic, environmental, dietary difference between the various ethnic groups. In our study, we found that polyps were the most common cause of LGIB constituting 23.3% of all the causes, whereas IBD ranked second (17.7%). Such results have been found in other studies as well. Wajeehudin *et al*. studied 80 patients and found that polyps were the most common cause of LGIB constituting (56%).[30] Similarly, Mozhgan Zahmatkeshan *et al*. did a study in 363 patients of LGIB and found 25% causes of LGIB due to polyps and 10.2% due to IBD.[31] Farzaneh Motamed *et al*. in their study found that 34.7% cases of LGIB were due to polyps.[32] Bai and Jun Penget found the prevalence of IBD as a cause of LGIB in 20% patients.[33] Diverticulosis of the colon is a common disease in western societies.[34] Although the true prevalence of diverticula is unknown, a large observational study of 9086 consecutive patients undergoing colonoscopy found a prevalence of 27% which increased with advancing age.[35-37] Some studies suggested that the prevalence of diverticula may be as high as 60% in patients older than 80 years of age and has no sex predilection. Diverticulosis of the colon is rare in rural Asia and Africa, and its incidence increases with age. The prevalence in Southeast Asia ranges from 8% to 22%. In our study, we

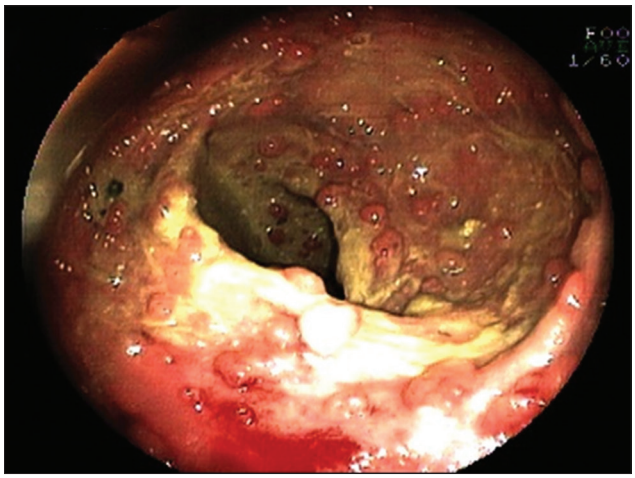


Figure 11: Colonic polyposis

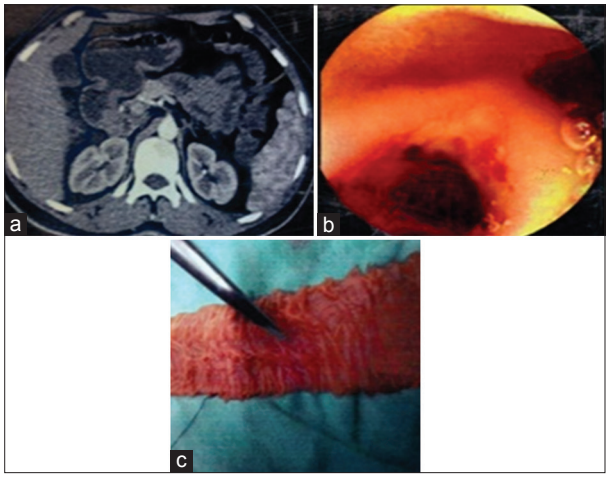


Figure 13: A 70-year-old male with recurrent malena. (a) Normal computed tomography enterography (b) capsule endoscopy revealsmultiple ulcers in ileum (c) surgery revealed small ulcers in ileum

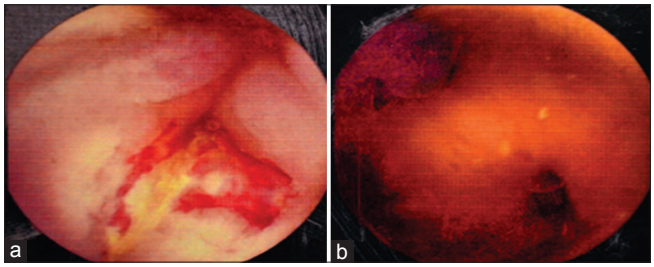


Figure 12: A 20-year-old male with abdominal pain recurrent gastrointestinal bleed. Capsule endoscopy reveals ulcer with active bleeding in leum (a), two diverticulae in ileum (b)

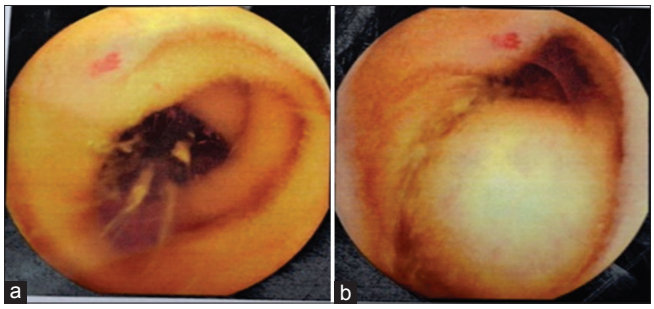


Figure 14: Capsule endoscopic pictures of angiodysplastic lesion in jejunum (a) ileum, (b) in a 54-year-old female who presented with two episodes of malena with normal upper and lower gastrointestinal endoscopy

Table 3: Etiology of LGIB in our study

Diagnosis	Frequency	Percentage	Valid percentage	Cumulative percentage
Polyps	70	23.3	23.3	23.3
Malignancy	36	12.0	12.0	35.0
Angiodysplasia	27	9.0	9.0	44.3
IBD	53	17.7	17.7	62.0
Hemorrhoids	16	5.3	5.3	67.3
Diverticular disease (including Meckel's)	24	8.0	8.0	75.3
Others (LNH, nonspecific ulcers, infective and ischemic colitis)	63	21.0	21.0	96.3
Undiagnosed	11	3.7	3.7	100.0
Total	300	100.0	100.0	

LGIB=Lower gastrointestinal bleed, IBD=Inflammatory bowel disease, LNH=Lymphoid nodular hyperplasia

Table 4: Various treatment modalities used for management of LGIB

Treatment modality	Frequency	Percentage	Valid percentage	Cumulative percentage
Colonoscopic	115	38.3		38.3
Medical	104	34.6	34.6	72.9
Surgery	63	21.0	21.0	93.9
Symptomatic	19	6.3	6.3	100.0
Total	300	100.0	100.0	

LGIB=Lower gastrointestinal bleed

also found the diverticular disease to be responsible for only 8% of the total cases.[38] Angiodysplasia and hemorrhoids were seen in 9% and 5.3% respectively as causes for LGIB. Other causes responsible for LGIB in about 21% patients were LNH, Infective and Ischemic colitis, nonspecific proctitis with ulcers and vasculitis. Around 3.7% of patients remained undiagnosed despite sophisticated investigations such as capsule endoscopy etc., consistent with other studies.[39]

Treatment options for LGIB include endoscopic, endovascular, medical, surgical, and symptomatic. Endoscopic treatment could be removal the culprit lesion (e.g., polypectomy) or achieving hemostasis. Endoscopic hemostasis can be achieved via epinephrine injection, thermocoagulation, and/or clipping/banding. Rebleeding after mechanical hemostasis occurs in 14.7% and 3.1% of cases treated with hemoclips and banding, respectively.[40] Rebleeding after endoscopically achieved hemostasis, in general, is reported to occur in 12-14% of patients. In our study, Endoscopic treatment was effective in 38.3%, whereas 34.6% patients needed medical management.[41] The most common endoscopic procedure done was polypectomy (61%) followed by the injection therapy (29.5%), and electro-coagulation 9.5%. Surgery was done in 21% (resectable colorectal malignancy, Meckel's diverticulitis, etc.) and 6.3% received symptomatic treatment (reserved for advanced cancer patients or those with insignificant undiagnosed bleeding). About 5% of patients require emergent surgery for acute massive LGIB. Because of the associated morbidity and mortality, surgery is reserved as the last resort in controlling LGIB except in the patients with early malignancy, Meckel's diverticulitis where surgery is the definitive cure.[23]

Conclusion

LGIB is a fairly common condition in gastroenterology wards. However, data regarding epidemiology, diagnosis, and treatment of LGIB is scarce particularly from the Indian subcontinent. The present study was carried out in one of the busiest tertiary care health institutes of North India where all the patients, including referred ones, with a myriad of gastroenterological problems, are dealt with. LGIB is a disease of extremes of age, both children, and older individuals being affected, although causes vary. Patients usually present with hematochezia and colonoscopy is the initial investigation of choice because, besides being readily available, it may prove therapeutic as well in addition to being diagnostic. A polyp is the most common diagnosis, and polypectomy is the most common procedure done.

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Conflicts of interest

There are no conflicts of interest.

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