

Colonoscopy findings of lower gastrointestinal bleeding in a tertiary care hospital: a 5-year retrospective study

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ABSTRACT

Introduction: Malignancy is one of the aetiologies of lower gastrointestinal bleeding (LGIB). Colonoscopy is the diagnostic modalities of choice. In this study we aim to examine the common causes and prevalence of malignancy among patients presenting with LGIB.

Method: This is descriptive retrospective study. We reviewed data of patients undergoing colonoscopy in Patan Hospital during January 2015 to December 2019.

Result: Total 502 patients were included in the study. Hemorrhoids (49.4%,246) were common findings followed by normal findings (21.8%, 109), colonic polyps (7.8 %, 39) and Colorectal malignancy (4.2%, 21). 85 % (18/21) were left sided malignancies. 7.11% (5/21) of had age less than 40 years.

Conclusion: Hemorrhoids were the most common cause and account nearly half of LGIB cases. Left sided colorectal malignancy can present with LGI bleeding, and not uncommon even in patients less than 40 years.

Keywords: Colonoscopy, colorectal malignancy, hemorrhoids, lower GI bleeding.

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INTRODUCTION

Traditionally lower gastrointestinal bleeding (LGIB) refers bleeding distal to the ligament of Treitz. With introduction of enteroscopy, small intestinal bleeding has been categorised as midgut bleeding and LGIB has been proposed as bleeding distal to the ileocecal valve.¹ It accounts for 20% to 30% presenting with major GI bleeding.² The usual presentation is overt GI bleeding (hematochezia or fresh rectal bleeding). However, it could be occult as identified by an unexplained iron deficiency and/or positive fecal occult blood test.³

The aetiology varies according to the environmental factors, lifestyle, dietary habits, age etc. In the west colonic diverticula are the most frequent causes followed by angiodysplasia, colitis, neoplasm and others.⁴ In India nonspecific ulcers are most common followed by infective ulcers, malignancy, and angiodysplasia.⁵ Haemorrhoids, IBD and malignancy are common causes in Nepal.⁶

Colonoscopy is the investigation of choice for diagnosis in patients with LGIB. The American Society of Gastrointestinal Endoscopy (ASGE) recommends colonoscopy in all patients with occult GI bleed, chronic intermittent scant hematochezia in patients greater than 50 years.^{1,8} For LGIB it had diagnostic accuracy of up to 90% with few cons.⁹ However, it is invasive, painful, inconvenient to patient and available mainly in referral centres only. Recent trend in West has been to perform early colonoscopy within 24 hours of acute LGIB.¹⁰ By identifying the common causes and prevalence of malignant lesion in patients with LGIB, we can help them in decision making process regarding pursuing colonoscopy for LGIB especially in those centres where colonoscopy facility is not readily available.

METHOD

This is descriptive retrospective study based on data review of patients undergoing colonoscopy in Endoscopy unit of Patan Hospital from January 2015 to December 2019. Ethical approval was taken from Institutional Review Committee (IRC) of Patan Academy of Health Sciences (PAHS). Records of all patients undergoing colonoscopy was reviewed. Those whose indications were recorded as LGIB i.e. hematochezia, or fresh rectal bleed were included. Their colonoscopy findings were reviewed. Patients presenting with hematemesis and melena were excluded. For those who underwent biopsy, histopathology reports were reviewed and analysed. Google sheets and Microsoft Excel was used to record and analyse data.

RESULT

There were 1,059 colonoscopy done during study period. Among them, 502(47.4%) had lower gastrointestinal bleeding. The mean age was 48.41±19.074. Majority were male 62.4%. The most common cause was haemorrhoid 49% (246) followed by normal findings in 21.7%(109). The colonoscopy findings are listed in table 1.

Biopsy was performed for histopathological examination (HPE) in 21%(106). HPE findings were traced in 99 of cases. In remaining seven patients HPE records were not found. Ulcerative colitis, adenocarcinoma and adenomatous polyp were the common findings (table 2). Colorectal malignancy was seen in 21(4.2%). Rectum was the most common site 47.61% (10). 85% (18) were left sided (table 3).

Among those with colorectal malignancy, 7.11% (5/21) were of less than 40 years of age. Age group 40-50 had highest malignancy (6/21) followed by age group 60-70 and >70 (table 4). For age related distribution 7 cases were excluded due to insufficient data.

Table 1. Colonoscopy findings in patients with LGIB

Colonoscopy Findings	N(%)	Colonoscopy Findings	N(%)
Haemorrhoids	246 (49%)	Diverticula	4(0.8%)
Normal	109(21.7%)	Worm Infestation	1(0.2%)
Colonic polyps	39 (7.8%)	Laxative overuse	1(0.2%)
Colorectal malignancy	21 (4.2%)	Angiodysplasia	1(0.2%)
Inflammatory bowel disease	20(4%)	Anal polyp	4(0.8%)
Proctitis	20 (4%)	Anal malignancy	2(0.4%)
Colitis	13(2.6%)	Anal ulcer	1(0.2%)
Colorectal Ulcers	10(2%)	Anal fissure	1(0.2%)
Rectal prolapsed	7(1.4%)	Fistula in ano	2(0.4%)
		Total	502

Table 2. Histopathology findings in patients with LGIB undergoing colonoscopic biopsy, (N = 99)

Histopathological findings	N (%)	Histopathological findings	N (%)
Ulcerative colitis	21(21.21%)	Solitary rectal ulcer syndrome	3(3.4%)
Adenocarcinoma	17(17.17%)	Squamous cell carcinoma	2(2.02%)
Adenomatous polyp	17(17.17%)	Normal findings	2(2.02%)
Nonspecific colitis	11(11.11%)	Gastrointestinal stromal cell tumor	1(1.01%)
Juvenile polyp	9(9.09%)	Crohn`s Colitis	1(1.01%)
Inflammatory polyp	5(5.05%)	TB Colitis	1(1.01%)
Infective colitis	5(5.05%)	Melanosis Coli	1(1.01%)
Hyperplastic polyp	3(3.4%)	Total	99

Table 3. Common sites of colorectal malignancy in patients presenting with LGIB, (N=21)

Site	N(%)	Site	N(%)
Rectum	10 (47.61%)	Descending	2(9.5 %)
Recto-sigmoid	2 (9.5 %)	Transverse	1 (4.76%)
Sigmoid	4 (19.04%)	Ascending	2(9.5 %)
		Total	21(100%)

Table 4. Age distribution of colonoscopy findings in patients with LGIB

Age	Colorectal Malignancy	Normal	Hemorrhoid	Others	Total cases (100%)
<20	0(0.00%)	2(8.70%)	12(52.17%)	9(39.13%)	23
20-30	2(2.82%)	12(16.90%)	32(45.07%)	25(35.21%)	71
30-40	3(4.29%)	15(21.43%)	38(54.29%)	14(20%)	70
40-50	6(6.38%)	19(20.21%)	54(57.45%)	15(15.96%)	94
50-60	2(2.70%)	17(22.97%)	36(48.65%)	19(25.68%)	74
60-70	4(4.88%)	15(18.29%)	36(43.90%)	27(32.93%)	82
>70	4(4.94%)	28(34.57%)	35(43.21%)	14(17.28%)	81
Total	21(4.18%)	108(21.82%)	243(49.40%)	123(24.90%)	495

DISCUSSION

LGI bleeding accounts for approximately one fifth cases of all acute gastrointestinal bleeding.¹¹ It is one of the common reasons for hospital admission and major cause of morbidity. This study incorporates larger sample size i.e. 1059 colonoscopic studies. Among which, 47.4 % (502) had LGI bleeding. Similar findings of LGIB (49.38%) was observed in 245 colonoscopy study done in mid-western region of Nepal.¹² The mean age of presentation of LGIB was 59± 16.9 years in the western country.¹³ However in our study it was 48.41 ± 19.074 which was similar to other study done in Nepal 48.1 years by Shrestha UK, 48 years by Bhattarai, et al. and 45.35 years by Chaudhary, et al.^{7,14,15} Similar findings were observed in our neighbouring country.^{16,17} This reflects the possibility of similar environmental risk factors and patterns of LGI disease prevailing within the country.

Majority of causes of LGIB in our study were haemorrhoids followed by colonic polyps, inflammatory bowel disease, colitis, proctitis, colorectal cancers and ulcers. Similar diseases patterns were seen in other Nepalese study.^{6,7} However, the main causes were colonic diverticula followed by inflammatory bowel disease, colorectal cancer, colonic polyps, angiodysplasias and post polypectomy bleeding in western

countries.^{18,19} The possible explanation of etiological differences could be variable environmental factors, lifestyle, dietary habits and longevity of population.⁴

Haemorrhoids were the most common findings (49 %) in this study and prevalent in all age groups. It was the most common finding but of different proportion in other Nepalese study i.e. 36% (Malla et al), 35% (Shrestha UK), 27.8% (Bhattarai, et al.) and 13.4% (Chaudhary, et al.).^{6,7,14,15} These differences could be due to sample sizes and threshold of performing colonoscopy especially in patients with proctoscopic findings of haemorrhoids. The most common cause for bleeding in western population was diverticulosis. However, it was rare finding in this study (0.8%) and similar findings observed in other study done in Nepal. Normal colonoscopy was also observed in significant proportion in these study (21.7%). These findings were also common in other studies. The possible reasons might be missed lesions (due to inadequate bowel preparation and operator dependent) and delay in doing procedure leading healing of bleeding source.

The epidemiology of ulcerative colitis has not been studied well in Nepal. However, its incidence is in increasing trend. In a recently published multicentre study, the incidence was 23.7 per

1000 colonoscopies per year.²⁰ There were 4.21% (21 cases) of histological proven ulcerative colitis in our cases. Identifying these conditions has good impact in preventing disease progression and complication.

The colonic polyps were the source of bleeding in 7.8% in this study. Among which majority were adenomatous. It constituted 5.6% to 18.3% in other Nepalese study.^{7,14} Colonoscopy is the choice of investigation for identification and getting biopsy in suspected colorectal cancer. Colorectal malignancy was observed in 4.2% (21). However, the prevalence was different in other similar study done in Nepal. It was 6.5%, 15.5%, 13.9%, 12.5% in study done by Shrestha UK, Malla, et al, Bhattarai, et al. and Aakash S, et al. respectively.^{6,7,14,21} The variation could be due to difference in sample size. All these malignancies were predominantly located in left side of colon which was similar with other study.^{7,22} It is obvious that left sided colorectal cancer often present with rectal bleeding than right sided.²³ It is assumed that colorectal cancer are the disease of increasing ages. There were 5 cases (7.1%) observed in age 40 years and below. It is not uncommon to have such disease in younger ages.

This study revealed the wide variation for cause of LGI bleeding. Colonoscopy remains the important modality of investigation to find the causes and further definitive treatment. However, haemorrhoids being the most common cause and left sided localization of colorectal cancer in 85.8% of cases, careful proctoscopy and/or sigmoidoscopy may have a role in management of LGIB. However, this must be based on more robust studies done locally. There were some limitations of this study. This was a retrospective study. Hence additional clinical features such as detailed presenting complaints, and examination findings were not available. Further information regarding adequate bowel preparation was not available. Additionally, bias could have occurred in selection of patient, as it incorporated only those patients with LGI bleeding who underwent colonoscopy study.

CONCLUSION

Colonoscopy was diagnostic in approximately 80% of the LGI bleeding cases. Haemorrhoids were the most common cause and account nearly half of LGIB cases in all age groups. Colorectal cancer especially left sided was important cause of LGI bleeding and also can occur in patient less than 40 years.

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Conflict of Interest

None

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