

Etiological Profile of Lower Gastrointestinal Bleed in a Tertiary Care**Debabrata Ray¹, Himansu Shekhar Mishra², Rakesh Ranjan Swain³, Abinasha Mohapatra⁴**¹Assistant Professor, Department of General Surgery, D.D. Medical College and Hospital, Keonjhar, Odisha, India, 758002²Assistant Professor, Department of General Surgery, Shri Jagannath Medical College and Hospital, Puri, Odisha, India, 752002³Associate Professor, Department of General Surgery, Bhima Bhoi Medical College & Hospital, Balangir, Odisha, India, 767002 .⁴Associate Professor, Department of General Surgery, Fakir Mohan Medical College and Hospital, Balasore, Odisha, India, 756019

Received: 25-05-2024 / Revised: 23-06-2024 / Accepted: 26-07-2024

Corresponding Author: Dr. Abinasha Mohapatra

Conflict of interest: Nil

Abstract:

Introduction: Lower Gastrointestinal(GI) bleeding refers to blood loss of recent onset originating from a site distal to the ligament of Treitz. It usually presents as hematochezia i.e. passage of maroon or bright red blood or blood clots per rectum. Lower GI bleeding (LGIB) accounts for almost 20% of all cases of acute GI bleeding. 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 and longevity of the population etc. Most of the studies pertaining to the etiologies of Lower GI bleeding are from the West. Data relating to the incidence and etiologies of Lower GI bleed in India is scarce hence this study was undertaken to identify the etiological profile of patients presenting with Lower GI bleeding in a tertiary care hospital in the northern part of India.

Materials and Methods: It is a Cross-sectional study done over a period of 1 year from January, 2023 to December, 2023. All the patients above 18 years of age with first presentation of Lower GI bleeding to the Department of General Surgery, SJ Medical College & Hospital, Puri, and Odisha during the period of study are included in the study.

Results: A total of 116 patients meeting the inclusion criteria were included in the study. Majority of the patients were males (69.8%). Hematochezia (86%) was the most common presenting feature and was commonly associated with constipation (46%), abdominal pain (32%) and loss of weight (11%). 8% of the patients had a history of Diabetes. Alcohol consumption was seen in 17% of the patients while 26% of the patients had a history of smoking. The most common etiology of Lower GI bleed seen was Hemorrhoids (35.3%), followed by Inflammatory Bowel disease (16.3%), Malignancy (12%) and Radiation proctosigmoiditis (11.2%).

Conclusion: LGIB is a common and alarming presenting condition in the practice of gastroenterology. It was found that Lower GI bleed is more common in males, usually in the 3rd to 4th decade of life and most commonly presents with hematochezia. Haemorrhoids, IBD and Malignancy were the major causes of Lower GI bleed.

Keywords: Hematochezia, Hemorrhoids, Proctosigmoiditis, Lower Gastrointestinal Bleeding.

This is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.

Introduction

Lower gastrointestinal bleeding (LGIB) refers to blood loss of recent onset originating from a site distal to the ligament of Treitz [1]. It usually presents as hematochezia i.e. passage of maroon or bright red blood or blood clots per rectum. Lower GI hemorrhage accounts for almost 20% of all cases of acute GI bleeding [2]. It has an annual incidence of hospitalization of approximately 36/100,000 population [3]. The incidence is higher in older patients and patients taking multiple

medications [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 and longevity of the population etc [2]. Lower intestinal bleeding has been found significantly more often in men than women and the incidence rate increases with age with a greater than 200 - fold increase from the third to the ninth decades of life [5]. The etiology of LGIB in adults

is diverse, both in the anatomic position of causative lesion(s) and in the propensity of these lesions to cause clinically significant bleeding. The most common causes of LGIB are Diverticular (60%), inflammatory bowel disease (IBD), ischemic, others (13%), Anorectal (11%), Neoplasia (9%), Coagulopathy (4%) and angiodysplasia (3%) [6]. However, in the Indian experience, the etiology differs significantly [5]. In comparison with the West, patients are younger, localization is possible in a majority of patients, mortality is lower and re-bleed rate is only 4% [7]. Nonspecific ulcers account for 30% of cases while the rest are enteric ulcers 15%, tubercular ulcers 6%, neoplasm 6%, and amoebic ulcers 6%, angiodysplasia 6% and others [8]. Colonoscopy has been shown to correctly identify the source of LGIB in more than 75% of patients while also allowing a therapeutic modality at the same time [4]. Most of the studies pertaining to the etiologies of LGIB are from the west. Data relating to the incidence and etiologies of LGIB in India is scarce. Hence this study was undertaken to identify the etiological profile of patients presenting with Lower GI bleeding in a tertiary care hospital.

Materials and Methods

It is a Cross-sectional study done over a period of 1 year from 1st January, 2023 to 31 December, 2023.

Inclusion Criteria:

All the patients above 18 years of age with first presentation of Lower GI bleeding to the Department of General Surgery, SJ Medical College & Hospital, Puri, and Odisha during the period of study are included in the study.

Exclusion Criteria:

Patients unfit for Lower GI Video Endoscopy and those who did not give consent for the procedure

were excluded from the study. Ethical clearance was obtained from the Institutional Ethical Committee prior to the commencement of the study. A written informed consent was taken from all the participants after explaining the nature and purpose of the study. All patients were interviewed and subjected to a clinical examination. The data was recorded in a predesigned and pretested pro forma. The participants underwent a lower gastrointestinal video endoscopy within 24 hours of presentation to the hospital using a forward viewing endoscope after adequate preparation prior to the procedure. The data obtained 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 116 patients meeting the inclusion criteria were included in the study. Majority of the patients were males (69.8%). The mean age of presentation was 46.14 ± 19.72 years. Most patients were between 18-30 years of age (25%).

Hematochezia (86%) was the most common presenting feature and was commonly associated with constipation (46%), abdominal pain (32%) and loss of weight (11%). Diabetes was present in 8% of the patients. Alcohol consumption was seen in 17% of the patients while 26% of the patients had a history of smoking.

On Lower GI endoscopy, the most common etiology of Lower GI bleed seen was Hemorrhoids 41(35.3%) followed by IBD 19(16.3%), Malignancy 14(12%) and Radiation Proctosigmoiditis 13(11.2%). Other findings seen were Infective colitis 11(9.4%), Polyps 06(5.1%), Solitary Rectal Ulcer 05(4.3%), Diverticulosis 03(2.5%), Non – specific ulcers 02(1.7%) and Ischemic colitis 02(1.7%).

Table 1: Findings on Lower GI Endoscopy

Sl. No.	Hemorrhoids	41 (35.3%)
1.	IBD	19 (16.3%)
2.	Malignancy	14 (12%)
3.	Radiation Proctosigmoiditis	13 (11.2%)
4.	Infective colitis	11 (9.4%)
5.	Polyps	06 (5.1%)
6.	Solitary Rectal Ulcer	05 (4.3%)
7.	Diverticulosis	03 (2.5%)
8.	Non – specific ulcers	02 (1.7%)
9.	Ischemic colitis	02 (1.7%)
Total - 116 (100%)		

Discussion

Lower GI bleeding is an alarming event [9]. Lower GI bleeding is associated with significant morbidity and mortality [10]. It can range from mild bleeding

to life threatening hemorrhage [11]. LGIB predominantly afflicts an older population with a mean age at presentation from 63 to 77 years [12,13]. However in comparison with the West

patients presenting with LGIB are younger in India [7].

In our study most of the patients presenting with LGIB were middle aged between 3rd and 4 decade of life. The mean age of presentation was 46.14 \pm 19.72 years which was similar to the study by Badiger RH et al [14] and a study by Hajare S et al [10]. In the present study, there was a male preponderance (69.8%) among patients presenting with Lower GI bleed. It has been seen that lower GI bleed affects men more commonly than women as seen in a study conducted by Dar IA et al [2] (59% males), Shrestha UK et al [11] (62% males) and Peura et al [15]. The male predominance can be attributed to tobacco use, alcohol consumption, low fibre diet, reduced fluid intake which increase colonic transit time and retain faecal wastage [16].

Clinically, the most common presentation was Hematochezia (86%) which was most commonly associated with constipation (46%) while no patient had melena as a presenting feature of lower GI bleed in the present study. This was similar to the findings by Badiger et al [14]. In a study by Dar et al [2] hematochezia was the commonest symptom in 63.3% patients followed by bloody diarrhoea (17%), anorectal bleed (12.3%) and melena (7%). This difference in presentation can be explained by the different locations of bleeding source [2].

The aetiology of lower GI bleed shows a marked geographical variation. Colonic polyps, Carcinoma and IBD constituted the three most common causes in various series from the West [17]. In our study the most common cause of lower GI bleed was Hemorrhoids (35.3%) followed by IBD (16.3%), Malignancy (12%) and radiation proctosigmoiditis (11.2%).

In the study by Hajare et al [10] in Indian population haemorrhoids (48%), ulcerative colitis (24%) and carcinoma of the colon (10%) were the important causes of LGIB on colonoscopy which are in line with our study. Shrestha et al [11] found the aetiologies of LGIB to be hemorrhoids (35.2%), non-specific colitis (24.8%), and colon polyps (18.3%), IBD (10.4%), colon cancer (6.5%) in a study in 415 patients in Nepal. In a study by Dar IA et al [2], in Jammu & Kashmir, India the most common cause of LGIB was colorectal polyps (23.3%), while IBD was seen in 17.7% cases and malignancy in 16.12%. In a study conducted by Alruzug et al [16] in 1137 patients in Saudi Arabia, haemorrhoids (38.5%), diverticulosis (12.1%), and malignant neoplasms (9.9%) were reported to be the most common findings on colonoscopy of LGIB. In another study done in Singapore, the most common etiology of LGIB was hemorrhoids [18].

Conclusion

LGIB is a common and alarming presenting condition in practice of gastroenterology. However, data regarding epidemiology of LGIB is scarce particularly from India. This study was conducted to shed some light in this regard. It was found that Lower GI bleeding is more common in males, usually in the 3 to 4 decade of life and most commonly presents with hematochezia. Haemorrhoids, IBD and malignancy were the major causes of Lower GI bleeding. Studying the variations in the etiological profile in different geographical locations could guide us in a better understanding of the associated risk factors and pathogenesis and aid in improving patient outcome.

Multicentre studies on larger patient populations are required to fully understand the aetiology of lower GI bleeding in various parts of the World.

References

1. Zuccaro G Jr. Management of the adult patient with acute lower gastrointestinal bleeding. American College of Gastroenterology. Practice Parameters Committee. Am J Gastroenterol 1998;93: 1202.
2. Dar IA, Dar WR, Khan MA, Kasana BA, So NU, Hussain M, et al. Etiology, clinical presentation, diagnosis and management of lower gastrointestinal bleed in a tertiary care hospital in India: Aretro-prospective study. J Dig Endosc 2015;6:101
3. Laine L, Yang H, Chang SC, Datto C. Trends for incidence of hospitalization and death due to GI complications in the United States from 2001 to 2009. Am J Gastroenterol. 2012;107:1190-5
4. Amin SK, Antunes C. Gastrointestinal Bleeding, Lower. [Updated 2018 Oct 27]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2019 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK448126/>
5. Zuckerman GR, Prakash C. Acute lower intestinal bleeding: Part I: Clinical presentation and diagnosis. GastrointestEndosc 1998;48:606-17
6. Vernava AM, Longo WE, Virgo KS (1996) A nationwide study of the incidence and etiology of lower gastrointestinal bleeding. Surg Res Commun 18:113-120
7. Govil D, Sahni P. Lower Gastrointestinal Haemorrhage. GI Surgery Annual Vol 1994; 13-103.
8. Khandelwal C. Lower gastrointestinal bleeding. Indian J Surg 2003; 65:151-5.
9. Sharma B, Sharma R, Bodh V, Sharma S, Sood A, Sharma R, Sharma N. Chronic lower gastrointestinal bleeding: Etiological profile and role of colonoscopy among children from

- sub-Himalayan ranges of North India. *J Dig Endosc* 2018;9:109-13
10. Hajare S, Kantamaneni R. Etiological profile of patients with lower gastrointestinal bleeding: A 1-year cross-sectional study. *Arch Med Health Sci* 2018;6:300-2
 11. Shrestha UK. Etiological profile, gender difference and age group patterns of 415 patients presenting with lower gastrointestinal bleeding in the western region of Nepal. *J Adv Internal Med* 2015; 3:52-5.
 12. Bounds BC, Kelsey PB. Lower gastrointestinal bleeding. *GastrointestEndoscClin N Am* 2007;17:273-88
 13. Farrell JJ, Friedman LS. Gastrointestinal bleeding in the elderly. *GastrointestEndoscClin N Am* 2001;30:377-407
 14. Badiger RH, Hajare S, Kantamaneni R, Kole A, Deebanshu. Etiological profile of patients presenting with lower gastrointestinal bleeding at tertiary care hospital at Belagavi: a cross sectional study. *Int J Adv Med* 2017; 4:1429-33.
 15. Peura DA, Lanza FL, Gostout CJ, Foutch PG. The American College of Gastroenterology Bleeding Registry: Preliminary findings. *Am J Gastroenterol* 1997;92:924
 16. Alruzug IM, Aldarsouny TA, Semaan T, Al-Mustafa A. Lower gastrointestinal bleeding in Saudi patients: A retrospective longitudinal study. *J Gastrointest Digestive Sys* 2016; 6:410.
 17. Goenka MK, Kochhar R, Mehta SK. Spectrum of lower gastrointestinal hemorrhage: an endoscopic study of 166 patients. *Indian J Gastroenterol.* 1993;12:129–131
 18. Schmulewitz N, Fisher DA, Rockey DC. Early colonoscopy for acute lower GI bleeding predicts shorter hospital stay: a retrospective study of experience in a single centre. *GastrointestEndosc.* 2003; 58:841-6.