

Original Article

Aetiology and Patterns of Presentation of Lower GI Bleeding in Makurdi, North-Central Nigeria: A Single Centre Experience

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ABSTRACT

Lower GI bleeding (LGIB) is a common presentation in clinical practice and is due to varying aetiologies with differing prognosis. We set out to determine the aetiologies and patterns of presentation of LGIB in Madonna Hospital, an endoscopy referral centre based in Makurdi, North-Central Nigeria. This was a retrospective study based on hospital records spanning a 42-month period that were retrieved, and relevant data was extracted and subjected to analyses. We observed that haemorrhoids were the most common cause of LGIB in this study with majority of the study participants presenting electively. However, malignancies were the second most common aetiology and presented in relatively older population. About one-quarter of the study participants presented as emergencies that required resuscitation. Other causes of LGIB in this study include infectious, inflammatory and vascular disorders. These should be borne in mind when evaluating patients presenting with lower GI bleeding.

Keywords: Haemorrhoidal bleeding, colonoscopy, colorectal cancer, lower GI bleeding.

INTRODUCTION

Lower Gastrointestinal bleeding (LGIB) is haemorrhage distal to the ligament of Treitz.¹ It may present as a fresh bleeding in stool (haematochezia) or passage of altered blood in stool (melaena). It is a frightening symptom to the patient and may occasionally be life-threatening. Sometimes, it is associated with haemodynamic compromise, in which case, it is termed massive LGIB.² In these instances, resuscitation is carried out alongside evaluation to unravel the aetiology of the bleed and hence institution of definitive treatment. Haemorrhoids appear to be the most common cause of LGIB in the young as well as in the elderly. However, in older individuals, malignancies and vascular disorders assume increasing importance.

This is a descriptive study in which records of procedures conducted within a 42-month period (April 2021 to October 2024) were retrieved and relevant data pertaining to LGIB were extracted retrospectively. These included socio-demographics, manner of presentation, and endoscopic and/or operative findings pertaining to the specific cause of the bleed. All procedures were performed in the endoscopy suite of Madonna Hospital, an endoscopy referral centre based in Makurdi, North-Central Nigeria. The equipment used consisted of an Olympus CV-260 system with compatible colonoscopes, oesophagogastroduodenoscopes and accessories. Informed consent was duly obtained from the

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patients before conduct of the procedures and permission was obtained from the hospital's research ethics committee to conduct the study. Data were analysed using Statistical Package for Social Sciences software (IBM) version 26.

RESULTS

Seventy-seven cases of lower GI bleeding were noted within the study period. Eighteen of these (23.5%) were massive bleeds associated with haemodynamic compromise. Males were more affected than females with a male to female ratio of 3:1. The mean age of the patients was 49.7 ± 17.6 years. However, the mean age of the cohort presenting with massive lower GI bleeding was 43.7 ± 20.8 years. The most common aetiology of lower GI bleeding was haemorrhoids seen in half of the patients ($n=39$, 51.0%). Other causes were as indicated in table 1. Bleeding haemorrhoids were also the most common cause of massive lower GI bleeding. Other aetiologies of massive lower GI bleeding included bleeding diverticular disease, bleeding angiodysplastic lesions and bleeding typhoid ulcers. Interventions required included endoscopic ($n=5$, 5.9%) and surgical ($n=23$, 29.4%). No intervention was required in most of the patients ($n=49$, 64.7%). Concerning the referral pattern, 54 patients (70.2%) were referred from public hospitals while 23 patients (29.8%) were referred from other private hospitals.

Table 1: Aetiology of lower GI bleeding

Aetiology	Number	Percentage (%)
Angiodysplasia	3	3.9
Colorectal malignancy	11	14.3
Diverticular disease	5	6.5
Haemorrhoids	39	50.6
Inflammatory Bowel Disease	6	7.8
Proctocolitis (amoebic)	5	6.5
Obscure*	8	10.4
Total	77	100.0

*Obscure bleeding was defined as GI bleeding in which the source was not identified despite an upper GI endoscopy and colonoscopy carried out

Table 2: Aetiology of massive lower GI bleeding

Aetiology	Number	Percentage (%)
Angiodysplasia	3	16.7]
Diverticular disease	3	16.7
Typhoid enteritis	3	16.7
Haemorrhoids	4	22.2
Obscure	5	27.7
Total	18	100

DISCUSSION

Lower gastrointestinal bleeding (LGIB) is a common indication for colonoscopy.³ The aetiology varies with age. Haemorrhoids appear to be the most common cause of LGIB in the young as well as in the elderly. The mean age of those presenting with haemorrhoidal bleeding in this study was 50.9 years, which is about the mean age of the total study participants. This may be explained by the fact that haemorrhoidal bleeding accounts for the majority of bleeding in this study. However, those presenting with haemorrhoidal bleeding were of a younger age compared to those presenting with malignancies (mean 63.8 years). This is similar to findings by Oluyemi and colleagues in Lagos, Nigeria.³ Haemorrhoids are dilated anal cushions which become symptomatic.⁴ These cushions contain the haemorrhoidal plexus of vessels which are situated submucosally. When these vascular plexuses are dilated, the overlying mucosa becomes thinned out and is easily traumatised, leading to bleeding. The pattern of bleed is thus fresh blood which “drops on the commode” or is noticed on wiping after stooling. Colorectal malignancies were the second most common cause of bleeding in this study, similar to findings by others¹. Increasing age is a risk factor for colorectal malignancy⁵ and since most are epithelial tumours, bleeding is a common presentation.[5] Most (75%) of the malignancies responsible for overt rectal bleeding were left sided colonic or rectal cancers, and the remaining were more proximally situated. This is similar to findings by others⁶ and is explained by the fact that bleeding from the distal colon and rectum is likely to be unaltered due to close proximity of the rectum to the anus, in contrast to bleeding arising from the more proximal colon. The finding of haemorrhoids and colorectal cancer as the most common causes of LGIB is similar to that by other authors.¹ Diverticular disease accounted for 6.5% of the bleeding cases in this study. This is comparable to findings in Ado-Ekiti, South-Western Nigeria.¹ Diverticular disease is a disease of the colonic wall consisting of a sac-like protrusion and is the most common anatomical colonic anomaly encountered in clinical practice.⁷ It is closely related to the blood supply of the colonic wall, which is

separated from the colonic lumen by a thinned-out mucosa. Bleeding thus occur commonly. Diverticular disease was previously thought to be a disorder of western populations; however, observation in Nigeria suggests that it is prevalent nowadays and this may be related to increasing adoption of western diet and lifestyle.⁸ Diverticular bleeding may be brisk due to the presence of dilated and thinned out vessels and the briskness of the bleeding may determine the clinical presentation. Briskier bleeds usually present with haemodynamic compromise. Three of the 5 cases (60%) of diverticular disease presenting with colonic bleeding presented as emergencies with massive bleeding, with one of them requiring emergency colectomy. In contrast, one author reported that only 5 percent of patients with diverticular haemorrhage presented with hemodynamic instability with none requiring surgery.⁹ Although some 10 percent of the study participants required surgery for diverticular bleeding, this was electively done.⁹ A possible reason for this contrasting observation could be the difference in health-seeking behaviour in Nigeria as compared to western world. Bleeding from inflammatory bowel disease accounted for 7.8% of lower GI bleeds in this study. Although, inflammatory bowel disease was thought to be rare in indigenous Nigerians, colonoscopy findings by several Nigerian authors have questioned this assertion.¹⁰ LGIB is a common presentation of inflammatory bowel disease and is a feature in over 80% of those presenting with ulcerative colitis.¹¹ However, other papers found on the subject in Nigeria^{1,3} did not ascribe LGIB causation to inflammatory bowel disease suggesting that it may not be a common cause of LGIB in Nigeria. LGIB in inflammatory bowel disease is due to the presence of ulcers which breach the submucosal vessels and therefore cause bleeding. In addition, the presence of diffuse inflammation in IBD may cause bleeding due to alterations in the blood vessels.¹²

Infectious colitis was responsible for 6.5% of LGIB in this study, which compares favourably with findings by other Nigerian authors.³ All 5 patients presenting with amoebic colitis presented with fever, crampy abdominal pain and bloody diarrhoea, which

are typical symptoms.¹³ In addition, they all had a history of consumption of (unusual) diet prepared under uncertain hygienic circumstances just before the diarrhoea and bleeding. Stool microscopy was positive for *Entamoeba histolytica*, and the bleeding rapidly resolved with amoebicidal agents.

Obscure GI bleeding is persistent or recurrent bleeding from the gastrointestinal tract whose source remains unknown despite an upper GI endoscopy and colonoscopy being performed.¹⁴ It occurs in about 5% of all patients presenting with GI bleeding.¹⁴ In comparison, the finding of 10% in this study is relatively high. Conventional upper GI endoscopy evaluates the oesophagus, stomach and proximal duodenum, while colonoscopy evaluates the rectum, colon and sometimes the terminal ileum. This leaves a large stretch of small bowel unevaluated and therefore obscure GI bleeding is usually from small intestinal sources. Nowadays, endoscopic tools to evaluate the small bowel exists and include capsule endoscopy and balloon enteroscopy; utilization of these tools will reveal the cause of the obscure GI bleeding in 41-75% of cases.¹⁴ However, these are not readily available at our centre, thus, no further testing was done in this study. However, in 3 of the 8 patients presenting with obscure bleeds, the bleeding was associated with haemodynamic compromise and high-grade fever. This prompted the suspicion of complicated typhoid enteritis which is endemic in Nigeria.¹⁵ Lassa fever is a close differential that should be considered in patients presenting with fever and rectal bleeding in our environment,¹⁶ but in these cases, other clinical features were not suggestive of the latter. Tests for Salmonella was done which came out to be positive. Based on this and the clinical suspicion, emergency laparotomy was done with findings consistent with typhoid ileal disease. Bleeding was controlled surgically and antibiotics administered with complete resolution of the symptoms. In the remaining 5 patients presenting with obscure GI bleeding, the cause was not determined; however, the bleeding abated without specific intervention.

In this series, haemodynamic compromise was noted in 18 of the 77 patients (23.4%) which is higher than the 10-15% quoted by other authors.¹⁷

The reason for this may be due to late presentation of patients which is a common trend in our clime. The cause of massive lower GI bleeding as shown in this study was mostly associated with some form of vascular anomaly, which may explain the briskness of the bleed and resulting haemodynamic instability. In just over a quarter of these patients, no bleeding source was identified despite performing an upper endoscopy and colonoscopy.

CONCLUSION

In conclusion, haemorrhoids and colorectal malignancies are the most common causes of lower GI bleeding in this study. The former tended to occur in all age groups and the latter in older individuals. Other causes included infectious, inflammatory and vascular disorders. These should be borne in mind when evaluating patients presenting with lower GI bleeding. Most of the cases presented electively, providing ample time for investigation and treatment.

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