

COLONOSCOPIC FINDINGS IN PATIENTS PRESENTING WITH LOWER GASTROINTESTINAL BLEEDING AT THE UNIVERSITY COLLEGE HOSPITAL, IBADAN, NIGERIA

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Abstract

Aim: In the investigation of the cause of lower gastrointestinal bleeding (LGIB), colonoscopy is the most effective and convenient method. Information concerning the aetiology of LGIB in Nigeria is still scarce because, colonoscopy is not widely available in the country. The aim of this study therefore, was to describe the colonoscopic findings in patients presenting with LGIB at the University College Hospital, Ibadan, Nigeria.

Patients & Method: This was a descriptive cross-sectional study which was carried out at the endoscopy unit of the University College Hospital, Ibadan, Nigeria. The data of 101 patients who presented with lower gastrointestinal bleeding and underwent colonoscopy were analysed.

Results: The patients comprised 62 (61.4%) males and 39 (38.6%) females, giving a male to female ratio of 1.6:1. The mean age of the patients was 59.6 ± 14.7 years with a range of 27-91 years. Analysis of the age groups showed that 29 (28.7%) of the patients were aged 70 years and above. At colonoscopy, 63 (62.4%) of the patients had only one abnormality, while 32 (31.7%) and 4 (4.0%) patients had 2 and 3 abnormalities respectively. The most frequent colonoscopic findings were haemorrhoids, colonic diverticulosis, colonic polyps and rectal tumour in 51 (50.5%), 36 (35.6%), 23 (22.8%) and 17 (16.85) patients respectively.

Conclusion: In our practice, haemorrhoids and colonic diverticulosis were the leading causes of LGIB at endoscopy. Colonoscopy is therefore recommended for all patients presenting with LGIB, especially for those who are 50 years and older in age.

Keywords: Lower gastrointestinal bleeding, Colonoscopy, Nigeria

INTRODUCTION

Historically, lower gastrointestinal bleeding (LGIB) is defined as bleeding from a source below the ligament of Treitz.^{1,2} However, with the advent of deep enteroscopy, LGIB is now being defined as bleeding from a source below the ileocaecal valve.^{3,4} LGIB accounts for about 20-30% of all major gastrointestinal bleeding.⁵⁻⁷

The annual incidence of LGIB is reported to be 0.03% and has been found to increase with age.⁸⁻¹⁰ Globally, it is a significant cause of morbidity and mortality, especially in the elderly. LGIB occurs more commonly in men than in women.¹¹ It is about five times less common than upper gastrointestinal bleeding.^{5,12} Majority of patients with LGIB have self-

limiting bleeding, although bleeding can occasionally be massive and life-threatening.¹³

The aetiology of LGIB varies from one region to the other, with colonic diverticulosis being the most common aetiology in western countries, followed by angiodysplasias, colitis and neoplasms.¹⁰ However, in India, nonspecific ulcers have been found to account for about 30% of cases of LGIB.¹⁴

In the investigation of the cause of LGIB, colonoscopy is the most effective and convenient method. It is safe and accurate, and also allows therapeutic procedures to be carried out.^{15,16} Although, some hospital-based studies had been carried out on the aetiology of LGIB in Nigeria, the information is still scarce due to the fact that, colonoscopy service is not widely available in the country.

The aim of this study therefore, was to describe the colonoscopic findings in patients presenting with LGIB at the University College Hospital, Ibadan, Nigeria.

PATIENTS AND METHOD

This was a descriptive cross-sectional study which was carried out at the endoscopy unit of the University College Hospital, Ibadan, Nigeria. The data of 101 patients who presented with lower gastrointestinal bleeding and underwent colonoscopy were analysed. Study procedures were followed in accordance with the revised Helsinki Declaration (2013).

A structured questionnaire was used to obtain demographic information, presence of symptoms such as, haematochezia, melaena, abdominal pain, weight loss, dizziness, syncopal attack, as well as history of NSAID use or alcohol ingestion.

Colonoscopy was performed on each patient after obtaining an informed consent and bowel preparation had been carried out. Patients who were haemodynamically unstable had colonoscopy done after adequate resuscitation with intravenous fluids and blood.

Bowel preparation consisted of three days of liquid diet and oral bisacodyl at a titrated dose of 10-30 mg daily. In addition, oral normal saline was prescribed as two litres bd a day prior to the procedure, and two litres early morning on the day of the procedure. Those patients who were assessed not to be able to tolerate large volumes of fluid were

placed on Epsom salt, two sachets mixed with a glass of clear water bd a day prior to the procedure, and two sachets early morning on the day of the procedure.

The instrument used was Olympus Exera III videocolonoscope (CF HQ190L) under conscious sedation with intravenous Midazolam titrated between 2.5-5 mg and Pentazocine 15-30 mg. Before, during and after the procedure, the vital signs were monitored using multiparameter monitor ((Marathon Z, Healthcare Equipment & Supplies Co. Ltd. UK). The colonoscopic findings were documented after the procedure.

The data were analysed using SPSS version 16.0 (SPSS Inc., Chicago, IL, USA). Means were used to express continuous variables and were compared where necessary. Level of significance was taken as $P < 0.05$.

RESULTS

The patients comprised 62 (61.4%) males and 39 (38.6%) females, giving a male to female ratio of 1.6:1. The mean age of the patients was 59.6 ± 14.7 years with a range of 27-91 years. Analysis of the age groups showed that 29 (28.7%) of the patients were aged 70 years and above. This was followed by 23 (22.8%) patients who were between 50-59 years of age. (Figure 1)

Analysis of the symptoms showed that, haematochezia was the major presenting symptom in 99 (98.0%) patients. Other symptoms were weight loss in 40 (39.6%), melaena in 29 (28.7%), dizziness in 25 (24.8%) and abdominal pain in 19 (18.8%). (Table 1) Comorbid conditions present in the patients were

Table 1: Presenting symptoms in the patients

Symptom	Frequency	Percent
Haematochezia	99	98.0
Weight loss	40	39.6
Melaena	29	28.7
Dizziness	25	24.8
Abdominal pain	19	18.8
Abdominal swelling	8	7.9
Syncope	5	5.0

systemic hypertension in 40 (39.6%), hypertensive heart disease in 5 (5.0%), ischaemic heart disease in 1 (1.0%) and diabetes mellitus in 8 (7.9%) patients.

At colonoscopy, 63 (62.4%) of the patients had only one abnormality, while 32 (31.7%) and 4

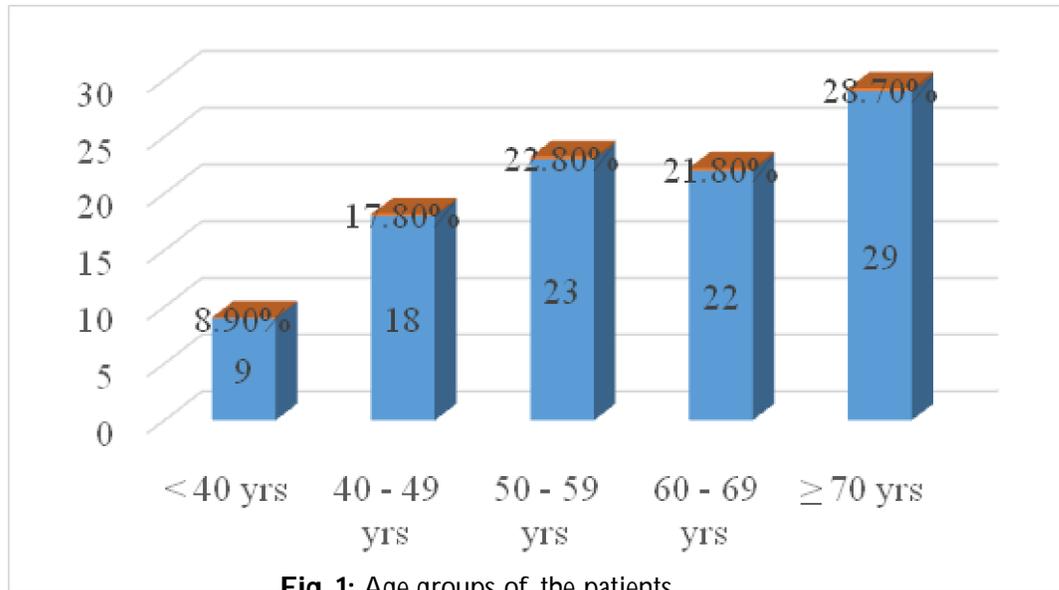


Fig. 1: Age groups of the patients

(4.0%) patients had 2 and 3 abnormalities respectively. The most frequent colonoscopic findings were haemorrhoids, colonic diverticulosis, colonic polyps and rectal tumour in 51 (50.5%), 36 (35.6%), 23 (22.8%) and 17 (16.85) patients respectively. (Table 2)

Table 2: Frequency of colonoscopic findings in the patients

Colonoscopic finding	Frequency	Percent
Haemorrhoids	51	50.5
Colonic diverticulosis	36	35.6
Colonic polyps	27	26.8
Rectal tumour	17	16.8
Colitis	4	4.0
Ulcerative colitis	1	1.0
Caecal tumour	1	1.0

Table 3: Univariate analysis of age groups and colonoscopic findings

Colonoscopic findings	Age group (yrs)		P-value
	< 60	≥ 60	
Haemorrhoids	34(66.7)	17(33.3)	0.00
Colonic diverticulosis	11(30.6)	25(69.4)	0.01
Colonic polyps	15(55.6)	12(44.4)	0.22
Rectal tumour	4(23.5)	13(76.5)	0.02
Colitis	4(100)	0(0)	0.04
Ulcerative colitis	1(100)	0(0)	0.31
Caecal tumour	0(0)	1(100)	0.32

Table 4: Univariate analysis of gender and colonoscopic findings

Colonoscopic findings	M n(%)	F n(%)	P-value
Haemorrhoids	30(58.8)	21(41.2)	0.65
Colonic diverticulosis	22(61.1)	14(38.9)	0.99
Colonic polyps	14(51.9)	13(48.1)	0.32
Rectal tumour	11(68.8)	5(31.2)	0.49
Colitis	2(50)	2(50)	0.65
Ulcerative colitis	1(100)	0(0)	0.42
Caecal tumour	0(0)	1(100)	0.21

Among the patients with haemorrhoids, 34 (66.7%) were less than 60 years of age, while 17 (33.35) were 60 years and older, and there was significant difference between the two groups (P=0.00). In those with colonic diverticulosis, 11 (30.6%) were less than 60 years, while 25 (69.4%) were 60 years and above, significant difference was also observed in them (P=0.01). Among those with colonic polyps, 14 (60.9%) were less than 60 years, while 9 (39.1%) were 60 years and older in age, but there was no significant difference between these two groups (P=0.22). Four (23.5%) of those with rectal tumour were less than 60 years of age, while 13 (76.5%) were 60 years and above in age and significant difference was observed between the two groups (P=0.02). Table 3.

DISCUSSION

Lower gastrointestinal bleeding (LGIB) is less common compared to upper gastrointestinal bleeding, and most cases of LGIB are due to self-limiting anorectal conditions, but sometimes, it may be the only symptom of a serious colorectal disease.¹⁷ It has been estimated that about 85% of the bleeding from the lower gastrointestinal tract originate from the colon, while 10% and 3-5% actually originate from the upper gastrointestinal tract and the small intestine respectively.¹⁸

There was male predominance observed in this study which is similar to the findings of other studies in Nigeria^{19,20} and other countries of the world.^{21,22} However, a study by Metcalf *et al*²³ found a female predominance. The male predominance is probably due to the fact that, most of the causes of LGIB are more prevalent in men, as was also demonstrated in this present study, although, there was no statistically significant difference between both genders. (Table 4)

Our study also showed that LGIB was more common in the elderly, as about 51% of our patients were older than 60 years of age. This was also the observation of Ajayi *et al*¹⁹ in Ekiti, which is in the same south-western part of the country, where our study was carried out. This was the same observation in studies carried out in other African countries by Dakubo *et al*²⁴ in Ghana, Mbengue *et al*²² in Senegal, as well as outside of Africa by Longstreth¹⁰ who reported an increased incidence rate of LGIB of more than 200-fold from the third to the ninth decades of life, and by Comay and Marshall in Canada.²⁵

One of the reasons for the increased incidence of LGIB in the elderly could be as a result of the increased incidence of gastrointestinal diseases specific to the elderly patients, such as, diverticulosis, ischaemic colitis and neoplasms. The other reasons are due to increased prevalence of comorbid conditions such as, cardiovascular diseases, renal diseases and diabetes mellitus in them, as well as increased use of drugs like anticoagulants and NSAIDs by the elderly people, which increase the risk of LGIB.²⁵⁻²⁷ In this present study, the most common co-morbid conditions observed in the patients were systemic hypertension and diabetes mellitus. Also, chronic NSAIDs use was reported by 35.6% of the patients.

However, in the study by Zia *et al*¹, LGIB was found to be more prevalent in younger patients.

This was attributed to the most common cause of LGIB in that study which was inflammatory bowel disease. It therefore implies that, the predominant aetiology of LGIB in a particular location might influence the age at presentation.

The most common finding at colonoscopy in our study was haemorrhoids. This is similar to the findings of Ajayi *et al*,¹⁹ Olokoba *et al*,²⁰ Mbengue *et al*,²² Dakubo *et al*,²⁴ Alatise *et al*²⁸ and Andoulo *et al*,²⁹ all in Africa. Also, similar study conducted by Metcalf *et al*²³ in the UK found haemorrhoids as the commonest aetiology of LGIB.

It has been observed that about 75% of patients presenting with LGIB might have haemorrhoids and this might actually be an incidental finding in the majority of them.³⁰ Some studies have reported haemorrhoids to account for about 2-10% of acute LGIB.^{10,31} However, in a study by Gayer *et al*² and Gralnek *et al*,³³ haemorrhoids were found to be the cause of LGIB in 24-64.4% of their patients. Majority of our patients with haemorrhoids were less than 60 years of age. This probably implies that it is a disease of the young people.

This present study also showed high prevalence of colonic diverticulosis among our patients. In contrast to our study, Comay *et al*,²⁵ Longstreth *et al*,¹⁰ Zia *et al*¹ and Peura *et al*³ found colonic diverticula to be the most common source of LGIB in their studies. Colonic diverticula are said to account for about 20-65% of cases of LGIB.^{32,34,35} About 30% of patients who are older than 50 years of age have colonic diverticula, while about 60% of those who are older than 80 years of age have the disease.³⁶⁻³⁸ This implies that, the prevalence increases with age. This is also corroborated in this present study, where 69.4% of the patients with colonic diverticula were older than 60 years. Also, some of the risk factors such as, NSAIDs and hypertension which can increase the risk of diverticular bleeding were noted in some of our patients.

Another important observation in our study was the high prevalence (26.8%) of colonic polyps among our patients, which was higher than that reported in similar studies.^{19,22,23,24,29} It is believed that most patients with colonic polyps are usually asymptomatic or they may present with non-specific intestinal symptoms. However, some patients with colonic polyps commonly present with occult or overt rectal bleeding.⁴⁴

In some of our patients, the colonic polyps might have been an incidental finding, especially in those who had the polyps coexisting with other conditions such as, diverticula, haemorrhoids or tumour.

Colorectal tumours are said to account for about 17% of all causes of LGIB and the most common presentation is occult bleeding.^{10,27,45,46} This figure is similar to our finding, however, all our patients with colorectal tumours presented with haematochezia. This was not surprising because, majority of the patients with colorectal tumours in this study had rectal tumours, and left sided colonic tumours are known to present with haematochezia.⁴⁶

Another important observation in this present study was the presence of melaena in 28.7% of our patients. Although, melaena is said to be about four-times likely to indicate upper gastrointestinal bleeding, it can also occur in the proximal colon.⁵ There was actually an overlap of symptoms, as most of the patients with melaena had haematochezia at the onset which later became altered with time.

CONCLUSION

Colonoscopy in the evaluation of patients with lower gastrointestinal bleeding at our centre revealed a range of findings, but haemorrhoids and colonic diverticulosis were the leading abnormalities. Colonoscopy is therefore recommended for all patients presenting with LGIB, especially for those who are 50 years and older in age.

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