Scientific Research Publishing

Open Journal of Gastroenterology, 2026, 16(8), 356-366
https://www.scirp.org/journal/ojgas
ISSN Online: 2163-9469
ISSN Print: 2163-9450

Colonoscopy Findings in Patients with Hemorrhoids and Hematochezia in Brazzaville

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How to cite this paper: Motoula Latou, P.M., Motoula Latou, E.S., Moulounda-Malonga, E.D., Ngami, R.S., Itoua Ngaporo, N.A., Ibobi, M.G., Atipo Ibara, B.H., Ngalessami Mouakosso, M., Ahombo Niotsebé, B., Adoua, S.C., Mimiesse Mounamou, J.F., Mongo Onkouo, A., Mikolélé Ahoui Apendi, C. and Atipo Ibara, B.I. (2026) Colonoscopy Findings in Patients with Hemorrhoids and Hematochezia in Brazzaville. *Open Journal of Gastroenterology*, **16**, 356-366.
https://doi.org/10.4236/ojgas.2026.168035

Received: July 27, 2026
Accepted: August 24, 2026
Published: August 27, 2026

Abstract

Introduction: Hematochezia is a common reason for consultation in gastroenterology. Hemorrhoidal disease is one of its primary causes; however, it can also manifest as a sign of other benign or malignant conditions of the colon. **Aims:** To determine the type and frequency of lesions observed during colonoscopy in patients with confirmed hemorrhoidal disease who are experiencing hematochezia. **Methods:** This was a retrospective, cross-sectional study conducted across three endoscopy centers in Brazzaville, including patients aged 18 years and older who underwent total colonoscopy between January 1, 2020 and December 31, 2024, for hematochezia. All patients had pathological hemorrhoids, confirmed either by endoscopy or clinically. The frequencies of co-existing rectal and colonic lesions were assessed. The Fisher's exact test was employed to determine the association between age and sex with the main lesions observed during colonoscopy. **Results:** Between January 1, 2020, and December 31, 2024, 173 patients with hemorrhoidal disease underwent colonoscopy for hematochezia. The mean age was 48.8+/−12.9 years, with 76.4% being over the age of 40. The majority of patients (84.4%) were male. The most frequently observed lesions during colonoscopy were diverticula (15% of cases) and polyps (9.2% of cases). Patients over 60 years of age accounted for 50% of those with polyps and 53.8% of those with diverticula. A statistically significant association was found between age and the presence of diverticula

($p < 0.001$), as well as between age and the presence of a polyp ($p = 0.04$). **Conclusion:** Diverticula and polyps were the most common lesions identified. Total colonoscopy should be considered in patients with hematochezia even in the presence of hemorrhoidal disease, especially in those over 40 years.

Keywords

Colonoscopy, Hematochezia, Hemorrhoids, Brazzaville

1. Introduction

Acute lower gastrointestinal bleeding is a common condition in gastroenterology, with an overall annual incidence ranging from 20 to 87 per 100,000 people and hematochezia is one of its most common manifestations [1] [2].

When faced with this symptom, the clinician's primary concern remains the possibility of colorectal cancer. Indeed, according to some studies, hematochezia is the presenting symptom in 34% to 45% of colorectal cancers [3] [4], and prevalence rates of colorectal cancer ranging from 11% to 23%, varying by age and risk factors, have been reported in patients evaluated for rectal bleeding [5] [6].

However, this multifaceted symptom may be a sign of many other benign or vascular conditions. Among these is hemorrhoidal disease, which has been identified as the primary cause of 50% to 60% of cases of rectal bleeding in studies conducted in Africa [7] [8].

Because of the high prevalence of hemorrhoids, clinicians are at significant risk of cognitive anchoring. The detection of pathological hemorrhoids during a physical examination may be falsely reassuring and lead to the omission of a comprehensive colonoscopic evaluation, which may result in the failure to detect a coexisting neoplastic lesion or another major colonic lesion requiring specific management [9] [10].

The American (ACG) and European (ESGE) scientific societies recommend a full colonoscopy in cases of persistent hematochezia or bleeding with warning signs, regardless of the presence of an obvious anal condition [11] [12].

However, the systematic implementation of these recommendations faces structural constraints in resource-limited settings. In these settings, a full colonoscopy remains prohibitively expensive, compounded by a shortage of technical facilities and the absence of effective universal health coverage [13] [14].

Clinicians are therefore often forced to strike a complex clinical balance between the cost of the exam borne by the patient and the expected diagnostic yield.

Our study fits within this context. We sought to determine the type and prevalence of coexisting colonic lesions observed during colonoscopy in a population presenting with both hematochezia and confirmed hemorrhoidal disease.

2. Methods

We conducted a retrospective study over a five-year period, from January 1, 2020,

to December 31, 2024, at three gastrointestinal endoscopy centers in Brazzaville. The patients included in this study were over 18 years of age, had undergone a colonoscopy for hematochezia, and all had hemorrhoidal disease. Patients were included regardless of the severity or duration of hematochezia or the presence of other signs such as a change in general condition, abdominal pain, or other gastrointestinal symptoms.

Exclusion criteria included patients whose bowel preparation, as assessed using the Boston Bowel Preparation Scale, was deemed to be of poor quality; those whose examination was incomplete for technical reasons, such as an irreducible loop; and those with a strong suspicion of upper gastrointestinal bleeding.

Patient data were collected from colonoscopy reports and recorded on a survey form. The information collected included sociodemographic variables (age, sex), the grade of hemorrhoids, and any rectal and/or colonic lesions observed during the colonoscopy.

3. Statistical Analysis

For continuous variables, we calculated the mean and standard deviation. Frequencies were expressed as percentages for categorical variables. Regarding the most common colonic lesions, we sought to determine whether their prevalence varied by age group, sex, or the severity of hemorrhoidal disease. The severity of hemorrhoids was determined according to the Goligher classification. Hemorrhoids classified as grades 1 and 2 on the Goligher scale were considered "mild," and those classified as grades 3 and 4 were considered "severe."

Categorical variables were analyzed using Fisher's exact test. Statistical analyses were performed using IBM SPSS software, version 20 (SPSS, Chicago, IL, USA), with a significance level set at $p < 0.05$.

4. Results

During the study period, 1,896 patients aged 18 years or older underwent complete colonoscopy across the three gastrointestinal endoscopy centers, of whom 470 presented with hematochezia. Hemorrhoids were identified in 184 of these patients. We excluded eight patients due to inadequate bowel preparation and three because of procedural intolerance leading to incomplete examination.

The total number of patients who met the inclusion criteria for our study was 173, all of whom had confirmed hemorrhoids. There were 145 men (83.8%) and 28 women (16.2%), for a sex ratio of 5.2 in favor of men.

The mean age was 48.8 ± 12.9 years, with ages ranging from 21 to 82 years. The median age was 49 years. The distribution of patients by age group is shown in Table 1.

Of the 173 patients, 125 (72.3%) had no lesions other than hemorrhoids. On colonoscopy, diverticula were the most common lesion, found in 15% of patients, followed by polyps, which were found in 9.2% of patients (see Table 2).

Table 1. Patients characteristics.

Characteristics	Numbers (N)	Frequencies (%)
Sex		
Male	145	83.8
Female	28	16.2
Mean age (years)	48.8 +/− 12.9	
Age groups (years)		
18 - 39	41	23.7
40 - 59	93	53.8
≥60	39	22.5
Grades of hemorrhoids		
Grade 1	136	78.6
Grade 2	31	17.9
Grade 3	4	2.3
Grade 4	2	1.2

Table 2. Colonoscopy findings.

Findings	Number (N)	Frequencies (%)
Diverticula	26	15
Polyps	16	9.2
Non specific colitis	6	3.5
Rectal varices	2	1.2
Angiodysplasia	1	0.6

The mean age of patients with a polyp was 55.1 ± 13.7 years, and that of those with a diverticulum was 58.8 ± 13.4 years.

Patients aged 60 years or older accounted for 50% of those with polyps and 53.8% of those with diverticula (Table 3 and Table 4).

There was a statistically significant association between the presence of a polyp ($p = 0.043$) and age (see Table 3). The presence of a diverticulum was also associated with age ($p < 0.001$; see Table 4). No association was found with sex for either lesion.

Table 3. Sex and age comparison between patients with and without polyps.

	Patients with polyps		Patients without polyps		p value
	N	%	N	%	
Sex					>0.5
Male	14	87.5	131	83.4	
Female	2	12.5	26	16.6	

Continued

Age (years)					0.043
18 - 39	2	12.5	39	24.8	
40 - 59	6	37.5	87	55.4	
≥60	8	50	31	19.8	

Table 4. Sex and age comparison between patients with and without diverticula.

	Patients with diverticula		Patients without diverticula		p value
	N	%	N	%	
Sex					>0.5
Male	21	80.7	124	84.4	
Female	5	19.2	23	15.6	
Age (years)					<0.001
18 - 39	4	15.4	37	25.2	
40 - 59	8	30.8	85	57.8	
≥60	14	53.8	25	17	

With regard to the location of the lesions, polyps were mainly found in the rectum, while diverticula were more frequently observed in the right colon (see **Table 5**).

Table 5. Location of polyp and diverticula.

Locations	Polyp		Diverticula	
	N (number of patients)	%	N (number of patients)	%
Rectum	6	37.5	-	
Sigmoid	-	-	2	7.7
Left colon	3	18.7	7	26.9
Transverse colon	2	12.5	5	19.2
Right colon	3	18.7	9	34.6
Caecum	2	12.5	1	3.8
All the colon	-	-	2	7.7

With regard to the grade of hemorrhoidal disease in patients who had a polyp, all 16 patients had grade 1 or grade 2 hemorrhoids (mild hemorrhoids). No association was found between the severity of hemorrhoidal disease and the presence of polyps (p = 0.83) (see **Table 6**).

5. Discussion

Hemorrhoidal disease is a common condition, with an estimated overall preva-

lence of 25.9% [15]. Together with colonic diverticulosis and depending on the region, it is one of the two most common causes of rectal bleeding. In Europe and the United States, colonic diverticulosis is the leading cause of hematochezia [16] [17].

Table 6. Severity of hemorrhoids related to the presence of polyps and diverticula.

	Mild hemorrhoids*		Severe hemorrhoids		Odds Ratio	95% CI	p-value
	N	%	N	%			
Polyps					1.36	0.07 - 25.3	0.83
Present	16	100	-	-			
Absent	151	92.2	6	3.8			
Diverticula					0.17	0.03 - 0.92	0.04
Present	23	88.5	3	11.5			
Absent	144	97.5	3	2.1			

*Mild hemorrhoids: grades 1 and 2; Severe hemorrhoids: grades 3 and 4.

In Africa, several studies have identified hemorrhoidal disease as the predominant cause of hematochezia. This is the case in studies conducted in Mali, Senegal, and Benin, in which its prevalence was 60%, 47.6%, and 35.9%, respectively, among patients presenting with rectal bleeding [18]-[20].

Given the prominence of this condition among the causes of anal bleeding in Africa, there is a risk that patients diagnosed with hemorrhoidal disease who present with hematochezia may not undergo a complete colon examination to identify other lesions that could be bleeding.

In our study, in which all patients had confirmed hemorrhoidal disease, polyps and diverticula were the main lesions found on colonoscopy, in 9.2% and 16% of cases, respectively.

In Cameroon, Bekolo reported that colonoscopy of 90 patients revealed polyps in 40%, colitis in 30% and diverticula in 27.5% of cases [21]. No cancerous lesions were identified.

In the Netherlands, in a study of 290 patients with hematochezia, all of whom had hemorrhoidal disease, Koning reported a diverticulum in 43.4% of cases, a polyp in 17.2% of cases, and cancer in 1.7% of cases [22].

Several other studies aimed at identifying coexisting colonic lesions in patients with hemorrhoids, with or without hematochezia, have identified relevant lesions in a significant proportion of cases.

In India, the three most common lesions in Bhatia's study were nonspecific colitis (11.1%), polyps (8.9%), and diverticula (6.7%) [23].

In a study conducted in Qatar involving 200 patients over the age of 50 with hemorrhoids, Hennawy identified the following as the most common colorectal lesions: a polyp (8%), a diverticulum (6%), and cancer (3.5%) [24].

The predominance of polyps and diverticula among the lesions found during colonoscopy in our study could be explained by the fact that these lesions, like hemorrhoidal disease, become more common with age [25]-[28].

However, age is not the only explanation for the presence of polyps in patients with hemorrhoidal disease.

In fact, according to Toyoshima, hemorrhoidal disease is a risk factor for colorectal adenomas. In a study involving 12,408 patients, 1863 of whom had hemorrhoidal disease, he demonstrated that, compared to patients without hemorrhoids, the presence of hemorrhoids was associated with a higher number of adenomas detected by colonoscopy, regardless of the patients' age or sex [29]. In the same study, the author found that a higher severity of hemorrhoidal disease was associated with a greater number of adenomas detected by colonoscopy, regardless of age, sex, or the endoscopist's level of expertise.

In line with Toyoshima's findings, other authors have reported an association between hemorrhoidal disease and neoplastic lesions of the colon.

In a cohort study conducted in Taiwan Region, China, after a follow-up period of just over six years, the incidence of colorectal cancer was 2.39 times higher among patients with hemorrhoidal disease than in the group of patients without hemorrhoidal disease [30].

Another study, conducted in Türkiye on 6268 patients, demonstrated a significant coexistence between certain benign colorectal lesions and malignant colorectal lesions. Among the 440 patients with a malignant lesion, 20.7% had hemorrhoidal disease and 55.2% had a polyp [31].

Several hypotheses have been proposed to explain the link between hemorrhoids and colorectal adenomas or cancers.

One of these is that long-standing hemorrhoids may act similarly to chronic inflammatory skin conditions, which could lead to regional inflammatory reactions and progress to localized squamous cell carcinomas [30].

Another explanation put forward for this finding is that hemorrhoids and colorectal neoplasms share common risk factors, such as obesity, smoking, low dietary fiber intake, and lack of physical activity [29].

Given the findings reported in the aforementioned studies, a colonoscopy to screen for cancerous or precancerous lesions should always be performed in patients with hemorrhoidal disease.

However, in low-income countries, where the cost of screening is prohibitive for many patients and access to endoscopy centers is limited, the decision to prescribe a complete colonoscopy must also consider the risk factors for colorectal neoplasia and the findings from the clinical examination. This is particularly pertinent when clinicians are managing patients with very limited financial resources.

Our study has certain limitations. It was a retrospective study, which introduces selection bias, since the patients included were selected based on the fact that they had actually undergone a colonoscopy. However, colonoscopy is not accessible to everyone because patients must cover the full cost themselves, and it can be per-

formed only at a very small number of healthcare facilities in Brazzaville.

Furthermore, since the study was based on colonoscopy reports, certain patient data that could have taken into account in the analysis of specific lesions observed during the procedure were missing. Thus, in patients with rectal or colonic polyps, it was not possible to assess certain lifestyle-related risk factors (e.g., obesity, a diet high in red meat, alcohol intake and smoking) or family and genetic factors such as a personal or family history of polyps or cancer.

Another limitation of our study is that in digestive endoscopy centers in Brazzaville, colorectal polyps are often resected only if their appearance is suggestive of an adenoma or neoplasm. In addition, patients must bear the cost of histological analysis. Consequently, histopathological findings were rarely available.

Finally, the small sample size limits the generalizability of our conclusions to the general population of Brazzaville.

6. Conclusions

Rectal and colonic lesions may be present in patients with confirmed hemorrhoidal disease who present with hematochezia. In our study, diverticula and polyps were the most frequently identified lesions. A comprehensive endoscopic evaluation of the colon is warranted for these patients, especially those over the age of 40. This examination should facilitate polypectomy when polyps are detected, thereby potentially preventing progression to colorectal cancer.

Given that no cases of colorectal cancer were identified in our work, further studies involving a larger population are needed to ascertain the prevalence of cancers in this demographic and to obtain results that are representative of the population in Brazzaville. Such investigations are crucial for enhancing our understanding of the relationship between hemorrhoidal disease and colonic pathology, ultimately guiding clinical practice and improving patient outcomes.

Author Contributions

Conceptualisation and study design: Pérès Mardochée MOTOULA LATOU, Evodie Syntyche MOTOULA LATOU, Eddy Dorian MOULOUNDA-MALONGA; **Data acquisition:** Eddy Dorian MOULOUNDA-MALONGA, Rody Stéphane NGAMI, Ngala Akoa ITOUA NGAPORO, Moria Gilga IBOBI; **Data analysis and interpretation:** Pérès Mardochée MOTOULA LATOU, Evodie Syntyche MOTOULA LATOU, Bienvenu Hostaud ATIPO IBARA, Marlyse NGALESSAMI MOUAKOSSO; **Drafting of the original manuscript:** Pérès Mardochée MOTOULA LATOU; **Critical revision and editing of the manuscript:** Bénédicte AHOMBO NIOTSEBE Sandra Céline ADOUA, Jile Florent MIMIESSE MOUNAMOU, Arnaud MONGO ONKOUO, Clausina MIKOLELE AHOUI APENDI, Blaise Irénée ATIPO IBARA; **Final approval of the version to be published:** Pérès Mardochée MOTOULA LATOU, Evodie Syntyche MOTOULA LATOU, Eddy Dorian MOULOUNDA-MALONGA, Rody Stéphane NGAMI, Ngala Akoa ITOUA NGAPORO, Moria Gilga IBOBI Bienvenu Hostaud ATIPO IBARA,

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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