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Research Article

Lower Gastrointestinal Bleeding Exploration in 120 Ciadians Patients

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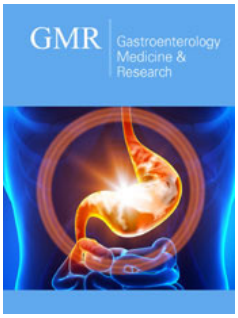

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Abstract

Introduction and aim: Lower Gastrointestinal (GI) bleeding is not well documented in Chad despite its frequency. The aim of this work was to study patients with lower GI bleeding, as well as the lesions attributable to this bleeding.

Patients and method: This was a retrospective, descriptive and analytical study carried out at the Internal Medicine department from January 1, 2015 to October 30, 2020. The medical records of patients who performed a complete colonoscopy for hematochezia have been included. Epidemiological, clinical, biological and endoscopic data were collected.

Results: in term of frequency lower GI bleeding constitutes 21.6% (120/555) of the reasons for requesting a colonoscopy. The mean age of patients with lower GI bleeding was 44 ± 15 years; the median of 42 years (5-78 years) and the modal class of 36-55 years (35%); the sex ratio was 4. The mean duration of the development of hematochezia was 1 year ± 2.9 years (range 3 days and 30 years); the amount of bleeding was low in 76.7% of cases (n = 92). They occurred post-fecal in 43.3% (n = 52) of cases; associated with constipation (26%; n = 31), proctalgia (20%; n = 24) and altered general status (10%; n = 12). Severe anemia was present in 4.3% (n = 4). The anoscopy, performed in 60% of patients, and was abnormal in 50.8% of cases (n = 61). Hemorrhoids (56.6%; n = 61) and colitis (27.8%; n = 30) were the most listed lesions. Patients less than 44 years of age had significantly anal fissure (p = 0.02); those over 44 years had colonic diverticula (p = 0.027) or colorectal cancer (p = 0.001). Hemorrhoids and colorectal cancer were more common in men (p = 0.033) all cancer patients had anemia (p= 0.001). Cancers (100%; n = 9), colitis (93.3%; n = 28) and anal fissures (75% n = 12) were the three main lesions attributed to hematochezia.

Conclusion: Lower GI bleeding, usually well tolerated, was frequent in gastrointestinal endoscopic exploration in young adult men without comorbidity. The cost-effectiveness of colonoscopy associated with anoscopy was high. Colorectal cancer was found in 8.3% of cases.

Keywords: Lower gastrointestinal bleeding; Etiology; Epidemiology; Clinic; Chad

Introduction

Lower GI bleeding or hematochezia is the emission of bright red blood from the anus. It usually reflects a lower digestive hemorrhage related to a lesion located downstream of the angle of Treitz. Exceptionally, the lesion may be located upstream of the Treitz angle, in case of heavy bleeding or when the intestinal transit is accelerated [1]. It is estimated that 30 to 40% of bleeding in the digestive tract originates downstream of the Treitz angle [2]. The incidence of recovery for lower GI bleeding has decreased slightly in the United States but remains an important cause of morbidity and mortality [3]. Like any GI hemorrhage, lower GI bleeding can be life-threatening due to its severity and the setting in which it occurs [4]. The management of Lower GI bleeding has evolved in recent years to include a multidisciplinary management strategy. The etiologies vary according to the age and comorbidities of the

patients. Initial resuscitation and the principle of optimizing patient status prior to endoscopic evaluation are the cornerstones of clinical care [5]. Endoscopic evaluation is based on colonoscopy preceded by a proctological examination [6]. Several studies have been carried out in Africa on lower GI bleeding [7-10]. However, in Chad, although data on upper GI bleeding are available, to our knowledge very few data are available on lower GI bleeding [11]. The aim of this work was to study patients with lower GI bleeding, as well as the lesions attributable to this bleeding.

Patients and Methods

This is a retrospective, descriptive and analytical study which concerned patients received in the Internal Medicine Department of the CHU La Renaissance of N'Djamena for lower GI bleeding during the period from January 2015 to October 30, 2020. The medical records of patients explored by colonoscopy for hematochezia were included in the study. Patients with unexploitable medical records and with incomplete colonoscopy were excluded from the study. Sociodemographic, clinical data, anal margin examination data (search of anal fissure and/or fistula, hemorrhoidal prolapse), biological (hemogram) and endoscopic data: results of anuscopy with the presence of internal and/or external hemorrhoids, colonoscopy (technical conditions of realization, quality of the preparation judged subjectively according to the operator or according to the Boston score) were collected. The colonoscopy were performed under general anaesthesia (the type of anaesthesia was specified as well as the drugs used), the tolerance according to the subjective evaluation of the operator, the characteristics of the lesion (site, aspect) were collected. The lesions described in the report by the operator were grouped into colorectal polyps, colorectal cancers, diverticula, varicose veins, colitis, hemorrhoids, fissures.

The diagnosis of cancer was suspected at endoscopy and confirmed histologically. Diagnostic cost-effectiveness was defined as the percentage of colonoscopies that showed one of the lesions described above. The responsibility of the lesion as the source of the bleeding was determined by the operator's conclusion. When there was evidence of direct or indirect bleeding from the lesion, the bleeding was attributed to it. We performed an exhaustive recruitment of all records of patients admitted for colonoscopy for hematochezia during the study period from the electronic registry of the endoscopy unit.

For the explorations, Fujinon* K056 and K057 colonoscopes were used. All examinations were performed with adult colonoscopes.

Data Analysis

The data were entered and analyzed using SSPS software version 25 (United States). First, we performed a descriptive analysis of all the variables studied. These results were presented in the form of percentages for the qualitative variables and means (with their standard deviation) for the quantitative variables. Then a bivariate analysis was performed to compare the characteristics of the lesions according to various determinants (age, sex, presence or absence of anemia, site). The comparison of percentages was done using Fisher's exact test. A significance level of $p < 0.05$ was used. On the ethical level, we obtained authorization from the Faculty of Human Health Sciences (FSSH) of Ndjamena University and from the managers of the CHU la Renaissance.

Results

Table 1: Characteristics of bleeding.

Characteristics of Bleeding	Number (N)	Percentage (%)
Duration of bleeding		
<1 month	40	33.3
1-12 months	57	47.5
>12 months	19	15.8
Not specified	4	3.3
Abundance of bleeding		
High	1	0.8
Medium	16	13.3
Minimal	92	76.7
Not specified	11	9.2
Timing of bleeding with stool		
After stool	52	43.3
Outside of stool	10	8,3
Mixed with stool	42	35
Not specified	16	13.3

During the study period, out of 555 colonoscopies performed, 120 were for lower GI bleeding, i.e. a frequency of 21.6%. The mean age of the patients with hematochezia was 44 ±15 years; the median was 42 years (extremes: 5 -78 years) with a sex ratio M/F of 4, of which 1/3 of the patients belonged to the age group 36-55 years. The characteristics of the bleeding were evaluated (Table 1). Thus, the mean duration of evolution of hematochezia in patients studied was 1 year ± 2.9 months with extremes of 3 days and 30 years. The abundance of bleeding was minimal in the majority of cases (76.7%). The hematochezia bleeding occurred after the stool in 43.3% of cases and was associated with constipation and proctalgia respectively in 26% and 20% of cases. In terms of investigations with anuscopy and colonoscopy, anuscopy was performed in 60% of patients. It was found to be normal in 9.2% of cases, 12.5% had external hemorrhoidal disease, 20.8% internal, in 17.5% it was mixed. The majority of patients had performed colonoscopy under General Anesthesia (GA) except in 3.3% of patients. The following products were used for GA: propofol alone (7343%), propofol + fentanyl (11.7%), midazolam + fentanyl (7.5%), propofol +midazolam (2.5%) and ketamine (1.7%). The colonic preparation was performed with polyethylene glycol 4000 (PEG 4000) in all patients. The quality of the preparation was judged good by the operator in 90% of cases. Out of 120 included patients, 12 or 10% had no endoscopic lesions (strictly normal in

exploration). The remaining 108, i.e. 90%, had at least one lesion. Hemorrhoids (56.5%) and colitis (27.8%) were the most common lesions. Concerning the site of the lesion, a lesion was found at the anal area in 71.3% of cases, cancers (100%), colitis (93.3) and anal fissures (75%) were the three main lesions attributed to lower GI bleeding (Table 2). In addition, patients under 44 years of age were more likely to have an anal fissure (p=0.02); those over 44 years of age were more likely to have a colonic diverticulosis (p=0.027) or cancer (p=0.001) (Table 3). In addition, hemorrhoids (p=0.033) and cancers (p=0.029) were statistically more frequent in male patients (Table 4). Finally, regarding the impact of bleeding on the blood count, anemia was significantly related to colorectal cancer.

Table 2: The various types of lesions found and the sites.

Types of Lesions and Sites	*Number (N)	Percentage (%)
Types of lesions		
Hemorrhoids	61	56.5
Colitis	30	27.8
Fissure anale	16	14.8
Polype	13	12
Cancerous lesion	9	8.3
Diverticulum	7	6.5
Rectal varices	3	2.8
Sites of lesions		
Anus	77	71.3
Rectum	27	25
Colon proximal	13	12
Colon distal	19	17.6

*The same patient could have several lesions.

Table 3: Relationship between age and lesion.

	Age						P-values
	≤ 44 ans		>44 ans		Total		
	N	%	n	%	N	%	
Hemorrhoids	33	54.1	28	45.9	61	100	0.899
Colitis	18	60	12	40	30	100	0.398
Anal fissure	13	81.3	3	18.8	16	100	0.02
Polyp	7	53.8	6	46.2	13	100	0.952
Cancer	0	0	9	100	9	100	0.001
Colonic diverticulum	1	14.3	6	85.7	7	100	0.027
Rectal varicose vein	1	33.3	2	66.7	3	100	0.452

Table 4: Relationship between gender and lesion.

Lesions	Sex						P-values
	Male		Female		Total		
	N	%	n	%	n	%	
Hemorrhoid	53	86.9	8	13.1	61	100	0.033
Colitis	23	76.7	7	23.3	30	100	0.598
Anal fissure	15	93.8	1	6.3	16	100	0.29
Colorectal polyp	9	69.2	4	30.8	13	100	0.321
Colorectal cancer	9	100	0	0	9	100	0.029
Colonic diverticulum	4	57.1	3	42.9	7	100	0.127
Rectal varicose vein	2	66.7	1	33.3	3	100	0.572

Discussion

We conducted a retrospective, descriptive and analytical study to investigate rectorrhagia at the CHU-la Renaissance from January 1, 2015 to October 30, 2020. We would like to point out that the retrospective nature of the work could be a source of bias on the data, especially epidemiological data. At the end of this study, we found that 21.6% of patients who underwent colonoscopy had hematochezia as a reason. This frequency is similar to that reported by Hassan et al in Morocco (22.4%) and by OKON et al in Ivory Coast (23.3%) [9,12]. A lower frequency (19.2%) was noted by Canard et al in France [13] in contrast to the study by Ankouane et al who reported a higher frequency (30%) in Cameroon [14]. This frequency varied according to the types of lower endoscopic explorations included. In Mali, a frequency of 38.8% was found when anuscopy, recto-sigmoidoscopy and colonoscopy were included [15]. Klotz et al. [16] in Gabon reported 33.5% of indications for sigmoidoscopy for rectal discharge [16]. The average age of our patients was 44 ± 15 years, close to those reported in Sub-Saharan Africa (42 to 50 years) [7,10,17]. This average age was one to two decades higher in Asia and the West respectively [18,19]. The male predominance found in our series was usual in the literature [2,20,21]. In our study, hematochezia was mainly associated with proctalgia and constipation. This preferential association was also noted by Katil et al. [15]. Deep anemia was rare but was associated in our study with the presence of colorectal cancer. This result confirms the data in the literature on the usually well tolerated nature of lower GI bleeding outside of patients at risk [3]. The protocol used in our practice for colonic preparation was judged to be good in 90% of cases in accordance with studies on the use of PEG [6,22,23]. The diagnostic efficiency was high at about 90% in this work. A similar proportion was noted by Sylvain and Beck [6,24]. Bai Y et al. [19] in a systematic review in China, observed an absence of lesion in only 4 to 7%.

In terms of etiology, hemorrhoidal disease was the most common lesion observed in this study (56.5%). It was the first cause of low endoscopic exploration [7,25,26]. It was predominantly male. In this series, hemorrhoidal disease was accompanied by anemia in less than one third of cases. Similar data have been reported by other authors [5,27,28]. The multiplicity of lesions that the same patient may have (22.5% of our patients had at least 2 lesions), suggests that in the presence of hemorrhoids, the presence of other lesions should also be sought. In the data of literature 37 to 62% of subjects had hemorrhoids associated with other lesions according to Gonver et al. [29]. Colitis was the second most common cause of hematochezia with 27.8% of cases. Paradoxically, we found a specific colitis or parasitic colitis, histology was not performed in many of the patients, nor were microbial explorations performed. This result was higher than that reported by Mbengue et al in 2009 in Dakar (17.5%) in Senegal but lower than that reported by Assi et al in 2005 in Abidjan (45%) in Ivory Coast [8,22]. The high prevalence of anal fissures could probably be explained by infectious causes, particularly bacterial and parasitic, which are frequent in our context [30]. Anal fissure is responsible for rectal bleeding in 14.8% of our patients in our series. This frequency is consistent with those observed in Sub Saharan Africa [31,32]. Colorectal polyps represent 12% of the causes of lower GI bleeding in this series. This rarity has been observed by other authors in Sub Saharan Africa, underlining their rarity in this geographical area [25,33]. However, this frequency is clearly high in the West [5,34]. The frequency of colorectal cancers found in our series is similar to those published by other authors in Ivory Coast and Mali [15,22]. As in the case of colorectal polyps, the frequency of cancers in our series was lower than those observed in Western countries [22,35,36]. The rectum was the most frequent site of colorectal cancer with 72.7% in accordance with the work of other African authors such as Mbengue et al with 88.3% [8].

The cancer was observed only in men in our series, this male predominance was also observed in several African series [7,8,37]. In the West, the tendency was more towards gender equality [33,38]. In our series, diverticula were rare in young subjects (mean age 59 years), a result that is similar to that of several other authors [22,35,39]. Colonic diverticula were found in 6.5% of cases in the study. This rarity is accepted in Sub Saharan Africa [7,8,21]. The increased incidence of diverticulosis in western countries suggests that environmental factors play a role in the pathophysiology of diverticulosis, including a low-fiber diet and lack of physical activity [40]. Furthermore, its frequency may be underestimated because we have diagnosed only hemorrhagic diverticula. The proximal colonic predominance in our study (62.5%) was also found in a study performed at the University Hospital of Cocody [22]. In the West, it is the sigmoid that is particularly affected (90%) [39]. Before the age of 44 years, anorectal lesions were predominant; they seemed to be more frequent in the colon after the age of 45 years. This anorectal lesion predominance in young subjects has been observed by other authors in Sub Saharan Africa [9,22].

Conclusion

Hematochezia is a frequent symptom in digestive endoscopy exploration. The patients were more often young adults without comorbidity. Colonoscopy is the examination of choice in the exploration of rectal bleeding, its cost effectiveness was very high. Hemorrhoidal disease and colitis were the most frequent lesions in young people, while cancers and diverticula were the prerogative of older subjects. Colorectal cancer, colitis and anal fissure were the main lesions attributed to rectal bleeding.

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