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Research Article

Bleeding Per Rectum: A Retrospective Study of 120 Cases

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ABSTRACT

Background: Lower gastrointestinal bleeding is one of the common problems seen worldwide, could be serious and occur at any age. Several studies conducted all over the world verified that there were variations in frequencies of etiologies of bleeding per rectum in their population, however, in the Middle East and Asia, the etiology of rectal bleeding differs from the West.
Objectives: To assess the causes of bleeding per rectum and to find if there is an association between rectal bleeding and various variables.
Subjects and methods: This was a retrospective cross-sectional study of 120 patients with bleeding per rectum for one year were studied in Al Ramadi Teaching Hospital, Ramadi City, Iraq. The patients underwent a full history and thorough physical examination. In all cases, initial digital rectal examination and proctoscopy were performed. Patients presented with a noticeable diagnosis of massive bleeding from the rectum were not included in our study.
Results: There were 84 males (64%) with male to female ratio of 2.33: 1. The median age of patients was 38 years (age ranged from 15-81 years). The main age group was ≤ 50 years (n = 95, 79.2%). The hemorrhoid was the most common cause of rectal bleeding (n = 95, 79.2%). The second cause was anal fissure which was found in 26 cases (21.65 %). Colorectal carcinoma was seen in 14 patients (11.67%), and most of them (n = 13) were above 50 years of age. There was no significant association between the rectal bleeding causes and the gender. However, there were highly significant differences between the causes and the age and bowel habits of the patients (P-value = 0.0001).
Conclusion: Hemorrhoids were the most prevalent cause of rectal bleeding. The patient's age and bowel habit might be determined the cause of bleeding per rectum.

Introduction

Lower gastrointestinal bleeding (LGIB) is hemorrhage from a source beyond the ligament of Treitz. Lower GIT bleeding is one of the common problems seen worldwide, could be serious, and occur at any age. It forms 20-30% of gastrointestinal bleeding and can present in a variety of rectal bleeding depending on the source location of blood loss and its amount (1,2). It is a common cause of patient presentation with a probable incidence of 87/10000 per year (3).

Despite advancements in diagnostic innovation, the site of bleeding cannot be recognized in 10% of patients (4). Most acute bleeding events will stop spontaneously, need only supportive measures, and do not necessitate intervention, so they can be managed as an outpatient (2,5). However, re-bleeding might happen in 25% of patients (4).

Aged patients and clinically significant coexisting illnesses in patients with LGIB have more risk greater than others for morbidity and mortality. LGIB is more frequent between the ages of 63 and 77 and is more common in males than females (6–8).

There are various causes of rectal bleeding. Several studies conducted all over the world verified that there were variations in frequencies of etiologies of bleeding per rectum in their population (7). In the Western population, diverticular disease is the most common cause of bleeding, forming 40% of the cases followed by angiodysplasia and ischemic colitis (6,7,9,10). However, in the Middle East and Asia, the epidemiology of etiology of rectal bleeding differs from the West, the most common is benign anorectal causes; hemorrhoid followed by fissure is in the top of the list (11,12).

Considering that there is no relevant study in our city, this study was conducted to provide current data and information about various conditions that manifested as rectal bleeding in our surgical department and their distribution among males and females in various age groups. We aimed to evaluate the causes of rectal bleeding and to determine the association between the causes and certain variables.

Subjects and Methods

This retrospective cross-sectional study was conducted on patients who were presented or referred with acute bleeding per rectum to the surgical department in Al-Ramadi Teaching Hospital, Ramadi City, Anbar, Iraq. The study covered 12 months (March 2019 and March 2020). The study was approved by the Ethical Approval Committee of the University of Anbar (reference number 91 on 25-6-2023). Owing to the retrospective nature of the study, informed consent from the participants was abandoned.

Patients from both genders and of an age ≥ 14 years were enrolled in the current study. While patients under 14 years, patients suffering bleeding problems, taking anticoagulants, liver illness, renal failure, and patients presenting with a noticeable diagnosis of massive bleeding from the rectum were excluded from our study.

Detailed history with focusing on elements that can help the assessment of the way to the bleeding cause: bleeding duration, the color of blood, was blood mixed with stool, presence of mucus, the existence of tenesmus, abdominal pain, alter in bowel habit, weight loss, and history of hemolytic drugs.

A thorough physical examination was performed, looking for anemia or mass in the abdomen. In all cases, initial digital rectal examination (DRE) and proctoscopy were performed.

An investigation was ordered as the case required. Some investigations were obtained for each patient including complete blood picture and prothrombin time. Colonoscopy was performed in certain cases.

The diagnosis was made in addition to the information mentioned above with proctoscopy and sigmoidoscopy.

All the data were entered and analyzed using Statistical Package for the Social Sciences (SPSS) version 26. The mean and standard deviation or the median and interquartile range (IQR) were used for the continuous variables. While the categorical variables were presented as frequencies and percentages. The data were presented in tables or figures. The Chi-Square test was used to compare categorical variance. A P-value of < 0.05 was considered a statistically significant difference.

Results

There were 120 subjects presented or referred with bleeding per rectum included in the present study. The mean age of the participants was 41.49 ± 13.754 years (age ranged from 15-81 years), while the median was 38 years. The majority of the cases were from the age group ≤ 50 years (n = 95, 79.2%), males (n = 84, 70%) with a male to female ratio of 2.33/1, and urban areas (n = 70, 58.3%) as shown in Table 1.

Table 1: The demographic characteristics of the 120 patients with rectal bleeding.

Variable	Number	Percentage
Age per years		
≤ 50	95	79.2
> 50	25	20.8
Gender		
Male	84	70
Female	36	30
Residence		
Urban	70	58.3
Rural	50	41.7

Most of the participants were with long duration (n = 103, 85.8%), early presentation (n = 98, 81.7%), recurrent bouts of bleeding (n = 105, 87.5%), no family history (n = 108, 90%), constipation (n = 66, 55%), blood not mixed with stool (n = 89, 74.2%), pain (n = 72, 60%), and no significant weight loss (n = 98, 81.7%) as indicated in Table 2.

Table 2: The clinical characteristics of the 120 patients with bleeding per rectum.

Variable	N	%
Duration		
Long	103	85.8
Short or recent	17	14.2
Presentation		
Early	98	81.7
Delayed	22	18.3
Attacks		
Recurrent	105	87.5
First attack	15	12.5
Family history		
Yes	12	10.0
No	108	90.0
Bowel habits		
Normal	32	26.7
Diarrhea	22	18.3
Constipation	66	55.0
Bleeding type		
Mixed with stool	31	25.8
Not mixed with stool	89	74.2
Pain		
Yes	72	60.0
No	48	40.0
Significant weight loss		
Yes	22	18.3
No	98	81.7

The commonest cause of rectal bleeding (n = 62, 51.67%) was hemorrhoids, while the least (n = 1, 0.83%) cause diverticulosis (Figure 1). There was a statistically significant difference among the various causes of rectal bleeding (P-value = 0.0001).

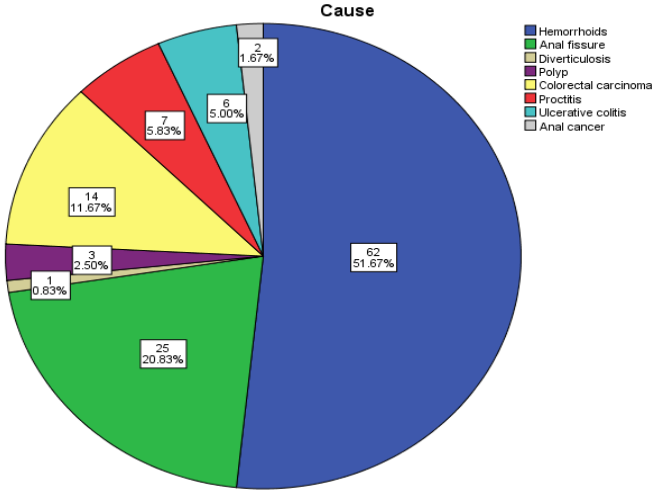

Figure 1: Various causes of the 120 patients with bleeding per rectum.

All causes of the rectal bleeding were mostly seen in the age group ≤ 50 years except colorectal carcinoma which was mostly seen in the age group > 50 years (n = 13, 92.85%). There was a highly statistically significant difference among the various causes regarding the age of the patients (P-value = 0.0001). All causes of the rectal bleeding were mostly seen in males. However, there was no statistically significant difference (P-value = 0.882) among the various causes regarding the gender of the patients (Table 3).

Table 3: The relationship between the cause of rectal bleeding and age and gender

Cause	Age per years				Gender			
	≤ 50 N (%)	> 50 N (%)	Total N (%)	P-value	Male N (%)	Female N (%)	Total N (%)	P-value
Hemorrhoids	50 (80.64)	12 (19.36)	62 (100)	**0.0001**	44 (70.96)	18 (29.04)	62 (100)	0.882
Anal fissure	25 (100)	0 (0)	25 (100)		16 (64)	9 (36)	25 (100)	
Diverticulosis	1(100)	0 (0)	1 (100)		1 (100)	0 (0)	1 (100)	
Polyp	3(100)	0(0)	3 (100)		3 (100)	0 (100)	3 (100)	
Colorectal carcinoma	1 (7.15)	13 (92.85)	14 (100)		10 (71.42)	4 (28.58)	14 (100)	
Proctitis	7 (100)	0 (0)	7 (100)		4 (57.14)	3 (42.86)	7 (100)	
Ulcerative colitis	6 (100)	0(0)	6 (100)		5 (83.3)	1 (16.7)	6 (100)	
Anal cancer	2 (100)	0(0)	2 (100)		1(50)	1 (50)	2 (100)	
Total	95 (79.2)	25 (20.8)	120 (100)		84 (70)	36 (30)	120 (100)	

The majority of the colorectal cancers were presented with normal bowel habits (n = 8, 57.14%). Diarrhea was seen in all cases of proctitis (n = 7, 100%) and ulcerative colitis (n = 6, 92.85%). However, constipation was seen mostly in hemorrhoids (n = 42, 67.7%). There was a highly statistically significant difference (P-value = 0.0001) among the various causes in association with bowel habits (Table 4).

Table 4: The relationship between the cause of rectal bleeding and bowel habit in 120 patients with rectal bleeding.

Cause	Bowel habit				
	Normal N (%)	Diarrhea N (%)	constipation N (%)	Total N (%)	P-value
Hemorrhoids	16 (25.8)	4 ()	42 (67.74)	62 (100)	0.0001
Anal fissure	4 (16)	4 (16)	17 (68)	25 (100)	
Diverticulosis	0 (0)	0 (0)	1 (100)	1 (100)	
Polyp	2 (66.7)	0(0)	1 (33.3)	3 (100)	
Colorectal carcinoma	8 (57.14)	1 (7.15)	5 (35.71)	14 (100)	
Proctitis	0 (0)	7 (100)	0 (0)	7 (100)	
Ulcerative colitis	0 (0)	6 (100)	0 (0)	6 (100)	
Anal cancer	2(0)	0 (0)	0 (0)	2 (100)	
Total	32	22	66	120 (100)	

Discussion

Bleeding per rectum is frequently seen in clinical practice and affects all age groups. In the UK, there is a 10% prevalence in the adult population. The majority of the cases run an intermittent course and often self-limiting symptom. In the vast majority of patients, the causes of bleeding per rectum are benign. Per rectal bleeding is still a common occurrence that needs to be properly assessed and managed (13).

Regional variations exist in the etiology of bleeding per rectum across the world. Diverticulosis coli, for instance, is one of the most prevalent causes of LGIB in Europe and the United States, while in Asia, diverticulosis of the colon is uncommon and is a significantly less prevalent cause of lower GIT bleeding (7). The ano-rectal pathology in general is considered one of the most conditions that face the physician. Our study revealed that the majority of the rectal bleeding cases were seen in the age group ≤ 50 years and males. Hemorrhoids were the most common cause. There was a highly significant association between the cause of rectal bleeding and the age of the patients and bowel habits (P-value = 0.0001).

In this study, it is clear that males patients were presented more in contrast to females with a male to female ratio of 2.33: 1 which is comparable with many studies around the world (7,9,14).

Benign anorectal diseases are accountable for the common causes of bleeding per rectum. Numerous studies in the world were conducted regarding bleeding per rectum. Some studies conducted in our country have shown a different etiological pattern from that of Westernized countries (15), where diverticulosis being the commonest cause (6,16,17), followed by ischemic colitis, carcinoma, polyp, and then ulcers. This may be attributed to that the pattern of rectal bleeding causes in the Iraq might be different in their incidences than those in Western countries (15,18).

Hemorrhoids are one of the common surgical conditions that are presented to and managed in the surgical clinic all over the world. In the present study, hemorrhoids are the most prevalent cause of rectal bleeding (51.67%), this finding is supported by studies from nearby countries, Manzoor (19), Khadka (20), and Nikpour (21).

According to reports, the maximum occurrence of hemorrhoids for both sexes occurs between the ages range of 45 and 65 (22). In our study hemorrhoids are the most frequent cause seen in most of the age groups and the highest numbers of patients with hemorrhoids were in the fourth and fifth decades of life with a male-to-female ratio was 2.44:1 (Table 3). To note that this low female ratio may be attributed

to that most our women prefer to be seen by a female doctor because of the social and religious matters.

The second most common reason for bleeding was anal fissures seen in 25 patients (20.83%). We notice that about half of patients with anal fissures presented in their fourth decade of life and about a third in the third decade. The study showed male to female ratio of 1.77:1 (Table 3). Most of them the fissure in ano was posteriorly located. Hemorrhoid and anal fissures together account for 74.1% of anorectal bleeding causes that were observed in our study (Figure 1), which gives a view that benign lesions are the most common cause of bleeding.

Despite anorectal abnormalities are causes of bleeding per rectum in the majority of cases, rectal bleeding might be the only feature of colorectal tumor. The most common gastrointestinal cancer worldwide, as well as in Iraq is colorectal cancer. A study conducted by Alrubaie et al. found that bleeding per rectum was the most present in 76.2 % of patients with colorectal carcinoma (23). Our study found that 11.67% of cases of bleeding from the rectum were caused by colorectal cancer and this outcome is consistent with other studies performed in Iraq by Alyouzbaki (15) and in Saudi by Alruzug et al. (24). In this study, the peak age groups of occurrence for colorectal cancer were > 50 year and male to female ratio of a 2.5: 1.

Ulcerative colitis is seen in 6 patients predominantly male. We noticed that all patients with ulcerative colitis were in the age of 50 years or less. As the patient with ulcerative colitis had an increasing risk of developing colorectal carcinoma later in their life, it is fundamental to suggest that these patients are to be followed carefully for their risk of developing carcinoma with colonoscopy (25).

There are regional variations in the etiology of LGIB around the world. Diverticulosis coli, for instance, represents one of the common causes of bleeding per rectum in Western countries. However in Asia and the Middle East, diverticulosis coli is not prevalent and is a significantly less frequent cause of LGIB. There are several studies about LGIB were conducted in Western countries and Asian populations, but there are a limited number of studies in our country which had shown a differing etiological pattern of bleeding per rectum (7, 8, 15).

The present study revealed that the majority of our patients had a long history of recurrent attacks of bleeding per rectum (85.5%) before seeking medical advice which should be stressed on further study and highly educational advices for the importance of sequels.

Although the direct causes of colorectal neoplasms are still unknown and not entirely understood, studies around the world have allowed us to identify numerous risk factors. Age is one of the risk factors that is linked to the development of colorectal cancer and the likelihood of having cancer colon and rectum begins to increase significantly between the ages of 50-54 year and the rates of incidence rise in each subsequent decade after that (26–28). In our study, 93% (13 out of 14) of colorectal carcinoma were seen in patients whose age was above 50 years of age, which is comparable to local Iraqi and global studies (29).

Also, we notice that 18.3% had significant weight loss, while the family history was not significantly present in these patients in contrast to other Western countries (21).

This study demonstrates and highlights the causes of bleeding per rectum, yet it should be noted that the study's sample size was insufficient to conclusively determine if these findings accurately reflect the community as a whole, necessitating the need for larger research to support its conclusions. Another shortcoming was the retrospective nature of the current study.

Conclusion

Benign pathology like hemorrhoids was the most common cause of bleeding per rectum. Colorectal cancer were seen mostly in the advanced age and men. The age and bowel habit of the patients can determine the cause of rectal bleeding.

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This research did not receive any specific fund.

Conflict of Interest

Authors declare no conflict of interest.

Data availability

Data are available upon reasonable request.

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