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Original Research Article

Frequency of Lower Gastro-Intestinal Bleeding

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Abstract: ***Background*:** Rectal bleeding is considered an important sign of colonic disease, particularly colorectal cancer. Rectal bleeding is considered to be an alarm feature in particular for colorectal cancer that, in tum, is the second- leading cause of cancer death globally. Colonoscopy has been reported recently as cost effective method of evaluating asymptomatic rectal bleeding 14, while rectal bleeding as a diagnostic indicator has been questioned in general practice. ***Objective*:** The objective of this study is to determine the frequency of common causes of bleeding per rectum among patients presenting to surgical OPD at tertiary care hospital. ***Materials and Methods:*** This descriptive cross sectional study was carried out at Department of General Surgery Hayatabad Medical Complex Peshawar from September 2021 to March 2022. Total of 164 patients with lower GI bleed were included in the study. All patients were enrolled in a consecutive manner and subjected to lower GI proctoscopy, other relevant investigations to detect the cause of GI bleed. ***Results:*** Total 164 patients were included. Age ranged between 15-60 years with a mean age of 37.5 years. There were 107(65.2%) male and 57(34.8%) female, with a male to female ratio of 1.9:1. Age distribution was analyzed as 63(38.4%) belongs to age group of 20-30 years, 30(18.3%) in 30-40 years, 26(15.9%) in 40-50 years and 45(27.4%) in age group 50-60 years respectively. On proctoscopy, hemorrhoids were found in 54(32.9%) patients, colitis in 15(9.1%), inflammatory bowel diseases (IBD) in 39(23.8%), ulcerative colitis in 29(17.7%), diverticular diseases in 10(6.1%) and abdominal TB in 17(10.4%). None of the patients had colorectal cancer. ***Conclusion:*** Hemorrhoids, inflammatory bowel diseases and ulcerative colitis were common causes of lower gastrointestinal bleed in our population and ulcerative colitis was significantly high in female patients.

Keywords: Lower gastrointestinal bleeding, ulcerative colitis, hemorrhoids, diverticulitis, inflammatory bowel diseases.

INTRODUCTION

Rectal bleeding is considered an important sign of colonic disease, particularly colorectal cancer. The epidemiology of rectal bleeding in the community is poorly understood. Moreover, there is little information as to whether individuals seek health care for this problem [1].

Rectal bleeding is considered to be an alarm feature in particular for colorectal cancer that, in tum, is the second-leading cause of cancer death globally [2, 3]. As such it would be important to see what features would prompt rectal bleeders to seek medical attention. There are some data about the prevalence of rectal bleeding, but population-based studies are scarce [4, 5]. Colonoscopy has been reported recently as cost effective method of evaluating asymptomatic rectal bleeding, while rectal bleeding as a diagnostic indicator has been questioned in general practice [6]. Moreover, others have suggested one stop rectal bleeding clinics to assess patients and provide optimal diagnosis and therapy [7, 8].

The etiology of bleeding per rectum is highly variable. Many times cause of bleeding lies in the anal

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canal like hemorrhoid, fissure, etc but if an obvious anal cause for the bleeding is not identified then there are no clear guidelines as how patient should be further investigated to identify the cause in our local surgical clinics [9, 10].

The rationale of this study was to determine the frequency common causes of bleeding per rectum among patients presenting to Surgical OPD of a tertiary care hospital. This study will provide current statistics and data to document the overall spectrum of different conditions presenting as bleeding per rectum in our outpatient department and their distribution among males and females in different age groups.

MATERIALS AND METHODS

This descriptive cross sectional study was carried out at Department of General Surgery Hayatabad Medical Complex Peshawar from September 2021 to March 2022. Total of 164 patients with lower GI bleed were included in the study. All patients were enrolled in a consecutive manner and subjected to lower GI proctoscopy, other relevant investigations to detect the cause of GI bleed. All patients of either gender between the age of 18-60 years, who attended the surgical OPD with chief complaints of bleeding per rectum in which the source of bleeding could not be identified by routine and proctoscopy were included in the study. Patients not giving informed consent, patients with acute painful conditions like anal fissure were excluded.

Statistical analysis was done using SPSS version 23.0 for windows 10. Microsoft Excel 2013 was used for Table and figures. P value ≤0.05 was considered statistically significant.

RESULTS

Total 164 patients were included. Age ranged between 15-60 years with a mean age of 37.5 years. There were 107(65.2%) male and 57(34.8%) female, with a male to female ratio of 1.9:1.

Age distribution was analyzed as 63(38.4%) belongs to age group of 20-30 years, 30(18.3%) in 30-40 years, 26(15.9%) in 40-50 years and 45(27.4%) in age group 50-60 years respectively, Table-1.

On proctoscopy, hemorrhoids were found in 54(32.9%) patients, colitis in 15(9.1%), inflammatory bowel diseases (IBD) in 39(23.8%), ulcerative colitis in 29(17.7%), diverticular diseases in 10(6.1%) and abdominal TB in 17(10.4%). None of the patients had colorectal cancer, Table-2.

Table-1: Age group distribution

Age	Frequency	Percentage
20-30 years	63	38.4
30-40 years	30	18.3
40-50 years	26	15.9
50-60 years	45	27.4
Total	164	100.0

Table 2: Common causes of lower GI bleed (n = 164)

Causes	Frequency	Percent
Hemorrhoids	54	32.9%
Colitis	15	9.1
IBD	39	23.8
Ulcerative colitis	29	17.7
Diverticular disease	10	6.1
Abdominal TB	17	10.4

DISCUSSION

Acute colonic bleeding (or lower GI bleeding) defined as that occurring from the colon, rectum, or anus, and presenting as either hematochezia (bright red blood, clots or burgundy stools) or melena has an annual incidence of hospitalization of approximately 36/100,000 population, about half of that for upper GI bleeding. The rate of hospitalization is even higher in the elderly. Patients usually present with painless hematochezia and a decrease in hematocrit value, but without orthostasis. Most cases of acute colonic bleeding will stop spontaneously, thereby allowing non-urgent evaluation. However, for patients with severe hematochezia, defined as continued bleeding within the first 24 hour of hospitalization with a drop in the hemoglobin of at least 2 g/dL and/or a transfusion requirement of at least 2 units of packed red blood cells, urgent diagnosis and intervention are required to control the bleeding [11]. Clinical factors predictive of severe colonic bleeding include aspirin use, at least two comorbid illnesses, pulse greater than 100/minute, and systolic blood pressure <115 mmHg. The overall mortality rate from colonic bleeding is 2.4–3.9%. Independent predictors of in hospital mortality are age

over 70 years, intestinal ischemia, and two or more comorbidities.

Large bowel endoscopy is nowadays a gold standard in the diagnosis of diseases of colon. Though colonoscopy is a most useful diagnostic and therapeutic tool, its cost and the resources are limiting factors for its usage in developing countries [12]. Sigmoidoscopy has historically been extremely valuable diagnostic tool in the study of colonic diseases. And also, it is more cost effective compared to colonoscopy. The barium enema provides an examination beyond the capability to sigmoidoscopy, but the sigmoidoscopy could be used directly to examine the more difficult areas of radiologic evaluation, the two techniques were obviously found complementary. Also, several studies have compared the sensitivity and specificity of the radiologic and sigmoidoscopic examination of the lower gastro- intestinal tract and have emphasized the fallibility and complementary nature of the two investigations [13].

In the present study, the lower GI endoscopy revealed that hemorrhoids were the most common cause of lower GI bleed followed by inflammatory bowel disease and ulcerative colitis and the endoscopy revealed at least one cause in every patient which is comparable to study by Sriram B *et al*., [14]. No patient sustained a major complication and this confirms the procedure's safety which is consistent with studies of Forrest K *et al*., and Parmar H *et al*., [15, 16].

Study by Degaonkar AS, stated that 25% sigmoidoscopies fail to the full length of 25cm. In contrast, in this study full insertion up to 25 cm. failed in 41.93% of our examinations [17]. Majority of cases were less than 30 years of age. Sigmoidoscope was passed to full length of 25cm most of the cases of our study group. In the study by Huang ES *et al*., the average distance to which rigid sigmoidoscope was inserted was 17.7±4.0cm [18].

The incidence of ulcerative colitis in this study group is 17.7%. In the study of Andrei GN *et al*., ulcerative colitis was found in 16 out of 85 cases of bleeding per rectum (18.82%) [19]. Screening for colonic carcinoma by stool occult blood testing has sensitivity of 75%. Also, it has been emphasised by several authors that 75% of all colorectal carcinoma are found within the reach of rigid sigmoidoscopy. Hence a combination of sigmoidoscopy and stool occult blood testing will produce the best detection rate for colonic carcinoma.

Rigid sigmoidoscopy has a very high diagnostic value in making the positive diagnosis in patients with bleeding per rectum in which preliminary investigation and even radiological procedures gives a negative response. However, it also serves an equally important function in helping to exclude serious colonic lesions and enables us to reassure the patient.

The proliferating cancer cells form pathological vasculature to supply itself for growth. This pathologic vasculature is extremely friable, which may lead to rectal bleeding, especially as the cancer progresses. Although it is not a major contributor to the overall incidence of rectal bleeding, representing only approximately 3.4% of the cases, it is one of the more serious causes that should be ruled out, especially in older patients [20].

Chronic inflammation in the digestive tract, such as in ulcerative colitis and Crohn's disease, may present with rectal bleeding. This is often associated with diarrhea and abdominal pain. Diverticula are small pouches in the wall of the colon, which usually occur at weak points where the vasa recta penetrate the muscular layer.

Over time, the blood vessels in the wall of these pouches become friable, making them susceptible to rupture, which can cause bleeding. Hemorrhoids are cushions of tissues found in the submucosa of the anal canal. They are found in the left lateral, right anterior, and right posterior positions. They are comprised of submucosal vessels and muscle fibers arising from the internal sphincter and the conjoined longitudinal muscle. It is a weakness in the muscle fibers that make the hemorrhoids symptomatic. The terminal branches of the superior hemorrhoidal artery are the primary blood supply, whereas the superior, middle, and inferior hemorrhoidal veins are responsible for the venous outflow. Hemorrhoids are further classified into internal (above the dentate line), external (below the dentate line), and mixed (both above and below the dentate line). Internal hemorrhoids cause 'painless bleeding. Goligher's classification is the most commonly used classification system and divides the hemorrhoids into 4 grades. Grade 1 hemorrhoids bleed but don't prolapse. Grade 2 hemorrhoids prolapse through the anus on straining but reduce spontaneously. Grade 3 hemorrhoids protrude and require digital reduction. Grade 4 hemorrhoids are irreducible after prolapse [21].

Anal fissures is a tear in the epithelial lining of the anal canal, which commonly occurs with constipation and the passage of hard stools (posterior anal fissures) or with childbirth (anterior anal fissures). It is associated with painful defecation with blood-streaked stools.

CONCLUSION

Hemorrhoids, inflammatory bowel diseases and ulcerative colitis were common cause of lower GI bleed in our population and ulcerative colitis was significantly high in female patients. Since our study was on a smaller sample size, we recommend more studies involving multi centers and on larger sample

sizes to draw conclusion about the exact burden of causes of lower gastrointestinal bleed in our population as it greatly influences the type of initial treatment in patients who present with lower gastrointestinal bleed in emergency.

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