

Ulcerative Colitis in Patients Presenting with Bleeding Per Rectum

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ABSTRACT

Objective: To determine the frequency of ulcerative colitis in patients presenting with bleeding per rectum.

Study Design: Cross-sectional study

Place and Duration of Study: This study was conducted at the Department of Gastroenterology Shiekh Zayed Hospital, Lahore from 10-03-2024 to 10-09-2024.

Methods: After approval of the synopsis, consent was taken from ethical review committee of the hospital. After that 95 patients fulfilling the inclusion criteria was assessed for socio-demographic and clinical data recorded on a pre-designed proforma. Then these cases were undergo colonoscopy by a consultant gastroenterologist and biopsy was taken under direct vision and ulcerative colitis was labeled as per operational definition. All these results were collected and recorded on same proforma.

Results: Total of 95 patients, 67.4 % (n=64) were in age group of 20-40 years and 32.6 % (n=31) were in age group of 41-60 years and mean age was calculated as 37.43±7.85 years. There were 64.2 % (n=61) were male whereas 35.8 % (n=34) were females. Frequency of ulcerative colitis in patients with bleeding per rectum was 27.4 % (n=26).

Conclusion: Current study found that frequency of ulcerative colitis was 27.6% in patients with bleeding per rectum and there was no significant association of ulcerative colitis with diabetes mellitus and smoking.

Key Words: Ulcerative colitis, Bleeding per rectum, Crohn's disease.

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INTRODUCTION

Ulcerative colitis (UC) is a type of inflammatory bowel disease which affects the colon, specifically the colonic mucosa^[1]. This illness especially manifests in diarrhoea, abdominal pain and constitutional bleeding per rectum, factors which greatly contributing to diminished QOL. The passage of blood through the rectum is one of the severe signs the patients report, which requires immediate medical intervention. The precise cause of UC is not known, but the development of the disease is thought to be due to genetic factors combined with environmental factors, and immune system dysfunction^[2]. UC occurrence is not uniform throughout the world; the two regions with the highest incidence are North America and Europe, with UC incidence at 24.3/100 000 annually.

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Symptoms, particularly rectal bleeding, offer potential prognostic information about disease activity and response to treatment in UC patients. Some studies have related rectal bleeding in UC with the severity of the disease as seen clinically. A study found 20–30% of UC patients with rectal bleeding needed hospitalization, with close association with extensive colonic involvement^[3]. Those admitted to the hospital had a higher risk of receiving intravenous steroids, 30 percent of whom failed to respond and needed either biologic agents or cyclosporine. Even with such interventions; colectomy rates persisted to be high, between 10% and 15% among patients with severe disease^[4]. Etiology of rectal bleeding determines long-term prognosis by the disease stage before therapy and after treatment. The landmark ACT trials also showed that early use of infliximab reduced bleeding episodes and increased mucosal healing rates, which are considered predictors of long-term prognosis. Contrary to this, real-world data reveal interpatient variability regarding response rates, as high as 20% of patients would present with persistent or recurrent bleeding even with proper therapy^[5]. Cross-sectional studies support the above effect of rectal bleeding in worsening patients' status and increasing rates of anaemia, hospitalizations and reduced quality of life. Early management such as the early administration of the correct pharmacologic and supportive therapy for the complications remains very important in enhancing survival in these patients. More work is required to enhance the accuracy of risk

assessing and to look for the optimal therapeutic approach to reduce the impact of UC.

METHODS

After the ethical approval from the institutional review board, this cross-sectional study was conducted at Department of Gastroenterology Shiekh Zayed Hospital, Lahore from 10-03-2024 to 10-09-2024. Through non-probability consecutive sampling, 95 patients aged 20-60 years, both genders, with bleeding per rectum of at least one month of duration assessed by history and medical record were included in the present study. Patients taking anticoagulation therapy like disprin, clopidogril, heparin or warfarin of any amount in last one week, documented cases of liver cirrhosis and hemorrhoids were excluded from the present study. After the informed consent from the included patients, socio-demographic and clinical data like age (years), gender (male/female), weight (in kg by electronic weighing machine), duration of symptoms bleeding per rectum, smoking (yes/no), DM (yes/no) assessed by HbA1c level more than 7 at any single occasion and recorded on a pre-designed proforma. Then these cases were undergoing colonoscopy by a consultant gastroenterologist with at least 1 year post fellow ship experience and biopsy was taken under direct vision and sent for histopathology of the same institute and ulcerative colitis was labelled as per operational definition. All these results were collected and recorded on same proforma. Data was analyzed with the help of SPSS version 23.0. Quantitative variables like age, weight and duration of symptoms were presented in terms of mean ± SD (Standard Deviation). Frequency & percentages was calculated for gender, DM (yes/no), smoking (yes/no) and outcome variable that is ulcerative colitis detected (yes or no). Effect modifiers were controlled through stratification of age, gender, weight, duration of symptoms, DM (BSR >200mg/dl)

and smoking to see the effect on outcome variable. Post stratification Chi-Square test was applied taking P-value ≤ 0.05 as significant.

RESULTS

Total of 95 patients fulfilling inclusion and exclusion criteria will be selected to assess the frequency of ulcerative colitis in patients presenting with bleeding per rectum. Table 1 shows the demographic and clinical parameters of the study participants (Table 1). Age distribution of the patients was done, it showed that out of 95 patients, 67.4 % (n=64) were in age group of 20-40 years and 32.6%(n=31) were in age group of 41-60 years and mean age was calculated as 37.43±7.85years. Gender distribution of the patients was done, it showed that 64.2 % (n=61) were male whereas 35.8 % (n=34) were females. Frequency of ulcerative colitis in patients with bleeding per rectum was 27.4 % (n=26). The data was stratified for age, gender, weight, duration of symptoms, and diabetes mellitus and smoking shown in Table No. 2-6 respectively.

Table No.1: Demographic and clinical parameters

Variables	Mean and Frequency
Age (years)	37.43±7.85
20-40	64 (67.4%)
41-60	31 (32.6%)
Gender	
Male	61 (65%)
Female	34 (35%)
Duration of symptoms(month)	1.63±0.74
Weight(kg)	61.69±8.12
Diabetes	29 (31%)
Smoking	39 (41%)
Frequency of Ulcer colitis	26 (27%)

Table No.2: Stratification for ulcerative colitis with respect to age using chi square test

			Ulcerative colitis detected		Total	p-value
			yes	no		
Age group	20-40 years	Count	17	47	64	0.800
		% of Total	17.9%	49.5%	67.4%	
	41-60 years	Count	9	22	31	
		% of Total	9.5%	23.2%	32.6%	
Total		Count	26	69	95	
		% of Total	27.4%	72.6%	100.0%	

Table No.3: Stratification for ulcerative colitis with respect to gender using chi square test

			Ulcerative colitis detected		Total	P-value
			Yes	No		
Gender	Male	Count	11	50	61	0.006
		% of Total	11.6%	52.6%	64.2%	
	Female	Count	15	19	34	
		% of Total	15.8%	20.0%	35.8%	
Total		Count	26	69	95	

	% of Total	27.4%	72.6%	100.0%	
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Table No.4: Stratification for ulcerative colitis with respect to weight using chi square test

		Ulcerative colitis detected		Total	p-value	
		yes	no			
Weight group	<=60 kg	Count	12	28	40	
		% of Total	12.6%	29.5%	42.1%	
	>60 kg	Count	14	41	55	0.624
		% of Total	14.7%	43.2%	57.9%	
Total		Count	26	69	95	
		% of Total	27.4%	72.6%	100.0%	

Table No.5: Stratification for ulcerative colitis with respect to symptoms using chi square test

		Ulcerative colitis detected		Total	p-value	
		yes	no			
Duration of symptoms group	1-2 months	Count	20	60	80	
		% of Total	21.1%	63.2%	84.2%	
	>2 months	Count	6	9	15	0.232
		% of Total	6.3%	9.5%	15.8%	
Total		Count	26	69	95	
		% of Total	27.4%	72.6%	100.0%	

Table No.6: Stratification for ulcerative colitis with respect to diabetes using chi square test

		Ulcerative colitis detected		Total	p-value	
		yes	no			
Diabetes mellitus	yes	Count	8	21	29	
		% of Total	8.4%	22.1%	30.5%	
	no	Count	18	48	66	0.975
		% of Total	18.9%	50.5%	69.5%	
Total		Count	26	69	95	
		% of Total	27.4%	72.6%	100.0%	

DISCUSSION

Rectal bleeding is a common symptom, with a prevalence of 14% to 19% in adults.^[3-6] Most patients bleed from benign sources such as hemorrhoids and diverticula, but others have serious colorectal disease including colon cancer, adenomatous polyps, and inflammatory bowel disease (IBD). Colon cancer is the third leading cause of cancer-related death in this country. The symptom of rectal bleeding in particular requires exact diagnosis because it can be an early sign of severe bowel diseases, such as colon carcinoma, or inflammatory bowel diseases. An examination of 99 patients aged over 40 years and presenting with a first episode of rectal bleeding who had been referred for a colonoscopy by GPs, showed serious abnormal findings in 44.9% of the cases.^[8] An estimated incidence of 8.3 and 7 in 1000 persons per year^[9,10]

In current study, we concluded that , Age distribution of the patients was done, it showed that out of 95 patients, 67.4 % (n=64) were in age group of 20-40 years and 32.6% (n=31) were in age group of 41-60 years and mean age was calculated as 37.43±7.85years. There were 64.2 % (n=61) were male whereas 35.8 % (n=34) were females. Frequency of ulcerative colitis in patients with bleeding per rectum was 27.4 % (n=26).

Rectal bleeding is often seen as bright red blood on toilet paper—usually after a bowel movement—or by turning the toilet bowl water red. Rectal bleeding can also be recognized in extremely dark stool (bowel movement), ranging in color from deep red/maroon to black, and sometimes appearing tar-like (melena). The color of the blood can indicate where the bleeding is coming from: Bright red blood usually means bleeding low in the colon or rectum. Dark red or maroon blood usually indicates bleeding higher in the colon or the small bowel. Melena usually means bleeding in the stomach, such as bleeding from ulcers. Not all rectal bleeding is visible to the eye. In some cases, rectal bleeding can only be seen by looking at a stool sample through a microscope.^[11] Another study done in Peshawar revealed the presence of UC presenting with diarrhea in 44% of the cases.^[2]

Rectal bleeding is a very common symptom. It occurs in adults of all ages. The 1-year prevalence in adults is about 10% in the UK. Most of this will not be reported. The majority of cases of rectal bleeding are due to benign causes, particularly haemorrhoids and anal fissures. However, there are many other possible causes, some of which are sinister. In particular the cause to be excluded is colorectal cancer.^[12]

Rectal bleeding is a common symptom, with a prevalence of 14% to 19% in adults. Most patients bleed from benign sources such as hemorrhoids and diverticula, but others have serious colorectal disease including colon cancer, adenomatous polyps, and inflammatory bowel disease (IBD). Colon cancer is the third leading cause of cancer-related death in this country. The majority of medical societies recommend some form of colon cancer screening for asymptomatic adult patients over age 50. The evaluation of rectal bleeding is different from screening because the risk of serious disease is higher and it is unclear whether early diagnosis and treatment of serious disease results in improved mortality once gross bleeding has occurred.^[7]

The most common presenting symptoms of UC are diarrhea and blood in the stool. Additionally, depending on the severity of and location the disease, patients may also report varying degrees of abdominal pain, nocturnal diarrhea, mucus discharge, urgency, and/or tenesmus. In rare cases with severe inflammation and especially in those with prolonged untreated UC before diagnosis, patients may present with weight loss, fevers, or perforation. Symptoms typically start gradually and evolve over several weeks. In as many as 25% of patients, extraintestinal manifestations (EIMs) may predate the onset of gastrointestinal symptoms.

In a recent population-based outcome survey conducted in Copenhagen with a cohort of 1575 patients with newly diagnosed UC, 13% had no relapse within the following 5 years, 74% had less than 5 relapses and 13% suffered an aggressive course with more than one relapse per year.

A meta-analysis of oral contraceptive users compared with those not using oral contraceptives suggests a 30% higher risk of UC (odds ratio [OR], 1.30; 95% CI, 1.13-1.49). Similarly, in the Nurses Health Study, hormone replacement therapy increased the risk of UC (HR, 1.71; 95% CI, 1.07-2.74). Although initial data suggested that isotretinoin increased the risk of IBD, epidemiological studies have not substantiated this finding, and it is no longer believed to be a risk factor for IBD. Approximately 8% to 14% of patients with UC have a family history of IBD, and those with a first-degree relative with IBD are 4 times more likely to have development of the disease. Twin studies indicate a 16% risk in monozygotic twins and only a 4% risk in dizygotic twins, indicating that genetics alone is not the only trigger for UC. Jewish ethnicity carries the highest risk for UC compared with other ethnicities, with the lowest rates seen in African Americans or Hispanics. Numerous genetic risk factors have been associated with the development of UC. However, only 7.5% of disease variance is explained by genetics.^[15]

Symptoms of new onset UC or recurrent flare-ups usually consist of abdominal pain, bloody and/or mucous diarrhea. Severe cases present with weight loss, tachycardia, fever, anemia and bowel distension. Before

starting medical treatment other etiologies of colitis/enteritis such as infections [CLOSTRIDIUM DIFFICILE, cytomegalovirus (CMV)], toxic reactions (e.g. antibiotics, NSAID colitis), mesenteric ischemia or intestinal malignancies should be ruled out. Opportunistic infections (e.g. CMV infection) need to be excluded prior to medical therapy escalation, especially in patients under immunosuppressive therapy with a corticosteroid-refractory course. Although there is no gold standard, minimal diagnostic workup for UC includes medical history, clinical evaluation (focusing on extraintestinal manifestations), full blood count, erythrocyte sedimentation rate (ESR), C-reactive protein (CRP), stool microbiology, ultrasound and endoscopy with mucosal biopsies^[1].

There are multiple drug classes discussed in this review that can be used to treat acute exacerbation of the disease and for maintenance of remission. However, even with medical therapy, up to 15% of patients will require surgery to treat UC or disease complications of dysplasia. Overall, the incidence of inflammatory bowel disease (IBD) has traditionally been highest in North America and Western Europe with increasing incidence in the mid-20th century. However, incidence of IBD is increasing in emerging populations in continental Asia.^[13-14] In North America, the incidence of UC is 2.2–14.3 cases per 100,000 persons per year, and its prevalence is 37–246 cases per 100,000 per year.^[13]

CONCLUSION

In current study, we assessed the frequency of ulcerative colitis in patients presenting with bleeding per rectum. We concluded that frequency of ulcerative colitis was 27.6% in patients with bleeding per rectum. This study also found that there was no significant association of ulcerative colitis with diabetes mellitus and smoking. Therefore, special protocols should be made to go for compulsory colonoscopy in cases of rectal bleed.

Author’s Contribution:

Concept & Design or acquisition of analysis or interpretation of data:	Afia Munir, Hassaan Yousaf, Zia ur Rehman
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Final Approval of version:	All the above authors
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