

# ETIOLOGY AND THE ROLE OF PROCTOSIGMOIDOSCOPY IN PATIENTS WITH ACUTE BLOODY DIARRHEAS

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## ABSTRACT

**Objective:** To find out the etiology of acute bloody diarrhea in patients admitted to a tertiary care hospital.

**Materials and methods:** This descriptive study was conducted in the department of medicine, Lady Reading hospital from 2005 to 2008. A total of 50 patients were studied, comprising of 35 males and 15 females. Mean age of the sample was  $32.66 \pm 15.4$  years). Patients who presented with acute bloody diarrhea of between 3-30 days duration were studied. Patients who had history of recurrent bloody diarrhea were also included. Patients below 12 years, severely dehydrated and seriously ill were excluded. All patients underwent fiberoptic Proctosigmoidoscopy and Rectal biopsy. Amebic colitis was confirmed on stool examination for Trophozoites of *Entamoeba histolytica*, typical proctosigmoidoscopic findings and response to anti-amebic drugs.

**Results:** Thirty-two patients (64%) were having new onset bloody diarrhea, while 18 patients (36%) were giving history of recurrent bloody diarrhea. All patients had evidence of Procto-colitis on fiberoptic sigmoidoscopy. The most common conditions were Ulcerative colitis in 25(50%), Bacterial dysentery in 15(30%) and Amebic proctocolitis in 7(14%). Findings on Proctosigmoidoscopy were mucosal hyperemia (50%), bleeding points (38%), ulcers (44%), pus (20%), pseudo polyps (4%) and mass (4%).

**Conclusion:** Fiberoptic Proctosigmoidoscopy is a simple and easier procedure to diagnose different causes of acute bloody diarrhea and should be considered in all cases except in seriously ill and dehydrated patients. The common causes of acute bloody diarrhea in our community are Bacterial proctocolitis, Amebiasis and Ulcerative colitis.

**Key words:** Fiberoptic Proctosigmoidoscopy, Ulcerative Colitis (UC), Acute bloody diarrhea.

## INTRODUCTION

Diarrhea is termed acute when it is of less than 4-6 weeks duration and is usually infectious in origin like viral, bacterial, drug / toxin induced or inflammatory. The most common causes of bloody diarrhea in our society are Bacterial (Shigellosis, Salmonellosis, E-coli infection), Amebiasis, Ulcerative colitis and Clostridium difficile colitis. Rare causes include Ischemic colitis, Radiation, and sometimes colorectal tumors. Acute bloody diarrhea should be considered a medical emergency. Its causes are frequently serious or actionable or both and are usually identified. However, acute bloody diarrhea as a stand-alone clinical presentation has received little scholarly attention in the past several decades. Although the range of possible causes of

acute bloody diarrhea is broad, infectious considerations are paramount and should always be prioritized in the evaluation of such patients. History, examination, and laboratory testing should be focused on minimizing time to diagnosis (and, by extension, to implementing appropriate therapy). Strategically chosen tests and imaging, avoidance of extraneous diagnostic pursuits, and provision of supportive care while awaiting diagnostic clarity are central to the proper management of patients with acute bloody diarrhea<sup>1</sup>.

Fiberoptic Proctosigmoidoscopy is an essential tool in the diagnosis of such patients especially when the symptoms are more than 3 days duration. It is of paramount importance in patients with recurrent bloody diarrhea. Although,

the proctosigmoidoscopic findings may sometimes not be so specific for certain diagnoses, but biopsy and Barium studies in such cases may differentiate different clinical conditions<sup>2</sup>.

**MATERIAL AND METHODS**

This was an observational study conducted in Medical A unit of Lady Reading Hospital Peshawar. All Cases were selected during a period of 3 years (2005-2008). A total of 50 patients (35 males and 15 females) were studied. Mean age of the sample was 32.66 ± 15.4 years). The selection criteria included patients with bloody diarrhea of between 3-30 days duration (32 patients) and patients with recurrent bloody diarrhea (18 patients). Patients with frank bleeding, watery diarrhea, with severe dehydration and clinically unstable patient were not included in the study. All patients underwent thorough history, physical examination, Fibreoptic Procto-sigmoidoscopy and Rectal Biopsy. Biopsy was taken from posterior wall of the Rectum in most cases. Barium Enema examination was performed only in those patients (n=25) who had no evidence of severe active colitis. Stool Culture were performed in those patients (n=28) who had no history of prior antibiotic use. All the clinical and laboratory data was recorded on a printed proforma along with a proper consent for inclusion in the study. Patients were properly investigated and diagnosed appropriately based on clinical, endoscopic, radiological and laboratory data. Response to appropriate antibiotics, steroids etc, and follow up data was also recorded.

**RESULTS**

Amongst 50 patients (35 male and 15 female), the following conditions were diagnosed in descending order of frequency; Ulcerative Colitis (25 {50%}patients), Bacterial Proctocolitis (15 {30%}patients), Amebic Colitis (7 {14%} patients), Colorectal Carcinoma (2 {4%}patients) and Radiation Colitis (1 {2%}patient) (Table 1).

The findings of digital rectal examination were tenderness (64%), and finger staining of

**Table 1: Table showing the etiology of acute bloody diarrhea**

S. No	Causes	No. of patients	Percentage
1	Ulcerative Colitis	25	50%
2	Bacterial Proctocolitis	15	30%
3	Amebiasis	7	14%
4	Colorectal Carcinoma	2	4%
5	Radiation Colitis	1	2%

blood (40%). One patient had palpable mass on rectal examination (who was later on diagnosed as a case of Rectal Carcinoma). Other patients were having normal findings on digital rectal examination. Stool microscopy revealed Red blood cells in all patients, Leukocytes in 45 (90%) patients. Stool culture was reported positive in 2 patients (one E. coli and the other Shigella species).

Amongst 25 patients who were diagnosed to have Ulcerative Colitis, one patient had Glomerulonephritis also. Five patients had extra-intestinal manifestations (arthritis of the large joints and Sacroiliac joints), and Erythema Nodosum. All those patients were treated with Steroids, antibiotics and Mesalamin (Asacol).

Fifteen patients were diagnosed to have Bacterial Proctocolitis. Only 2 stool cultures were reported positive. Amebic Colitis was found in 7 patients on the basis of the presence of E-histolytica Trophozoites, typical colonoscopic finding, and response to Metronidazole (however, 2 patients had normal endoscopic appearance). These patients were followed for about a year with no relapse. One patient among them was also having amebic liver abscess.

Two patients were found to have Colorectal tumors on Proctosigmoidoscopy. Both were referred to surgeon for appropriate management. One patient was also found to have bloody diarrhea due to radiation which she received 2 months ago for carcinoma Cervix. She died during stay in the hospital inspite of receiving antibiotics, steroids and supportive care.

The findings on Proctosigmoidoscopy were hyperemic mucosa, bleeding points, and ulcers of variable sizes and the presence of pus (Table 2). Rectal involvement was seen in all patients of UC (Table 3). Although, those findings were similar in almost all patients of UC, Bacterial Proctocolitis and Amebic colitis; stool examination, biopsy, barium studies and therapeutic interventions helped us in proper diagnosis in those cases.

**Table 2: Proctosigmoidoscopic findings**

S. No.	Findings	No. of patients	Percentage
1	Mucosal hyperemia	25	50%
2	Bleeding points	19	38%
3	Ulcers	22	44%
4	Pus	10	20%
5	Pseudopolyps	2	4%
6	Mass	2	4%

**Table 3: Extent of large gut involvement in 25 patients of UC**

S. No	Extent of disease	No. of patients	Percentage
1	Only Proctitis	5	20%
2	Rectum and Sigmoid involvement	19	76%
3	Rectum + Total colon involved	1	4%
	Total	25	100%

## DISCUSSION

Acute bloody diarrhea is a worldwide problem particularly of the lower socioeconomic societies with substandard sanitation. In our country, sanitary measures do not meet the standard criteria. Very few studies have been conducted in our country to know about the etiology of acute bloody diarrheas in our country, and in fact, no study has been conducted to highlight the role of Proctosigmoidoscopy in acute bloody diarrheas here.

This study represents the results of 50 patients with acute and recurrent bloody diarrheas with special emphasis on the role of Proctosigmoidoscopy and its findings. Stool culture and Barium enema was not done in all cases. Barium enema examination was performed only in patients who had no evidence of severe active colitis; and stool culture was performed in patients who had no history of prior antibiotic use. All the bacterial causes were considered in one group. The diagnoses of these patients were supported by other relevant investigations.

The most common causes of acute and recurrent bloody diarrhea were found to be Ulcerative colitis, Bacterial and Amebic proctocolitis. Obviously, one feels that the number of Bacterial and Amebic proctocolitis should be high which is in contrast in this study (in which 50% of cases are of UC). But the reason for this high number of patients of UC is because most patients of bloody diarrheas receive antibiotics and Metronidazole in their localities, due to which many patients don't reach to a tertiary care facility in time. Another reason for the low figures of Bacterial and Amebic dysentery is that many of these cases are self limiting and sometimes require no treatment. Most of these patients consult physicians when their symptoms persist for a week or more.

UC was the most common cause of acute or recurrent bloody diarrhea in this study. In fact, UC presents in almost all patients with

proctocolitis, which is manifested by diarrhea with mucus and blood. Rectum is almost always involved in untreated disease<sup>3, 4</sup>. The disease is considered to be more frequent in females as compared to males<sup>2</sup>. The incidence is about 4-10/100,000 population in different races<sup>5, 6</sup>. In our study, amongst 25 patients of UC, 11 were females and 14 were male patients. It looks contrary to international literature, but the reason is probably the social issues regarding our society and the small number of patients in this study. Extra intestinal manifestations are seen in about 15-20% of patients, mostly in the form of axial or limb joints arthritis, Erythema nodosum, ocular and hepatic manifestations and others. In our study, 5 patients had extra-intestinal manifestations; where 5 had Erythema nodosum and 3 amongst these 5 had arthritis of the large joints. Other extra-intestinal manifestations were not seen in these patients. These findings are consistent with international literature<sup>7, 8</sup>. A study conducted in Oman revealed 11% of patient of UC had extra-intestinal manifestations<sup>9</sup>. Regarding the severity of UC, 20 patients (80%) had mild to moderate disease with the disease limited to rectum and sigmoid colon. This is comparable to a study published in a local journal which reported that more than 50% of patients were having disease limited to Rectum and sigmoid<sup>10</sup>. Five patients had the disease beyond sigmoid and 3 of these patients were resistant to treatment. One patient underwent Proctocolectomy with Ilio-anal anastomosis, and 2 of these patients were lost to follow up.

Bacterial proctocolitis and Amebiasis ranked second in the list of etiologies of acute bloody diarrheas in our study. But the true burden of these cases may be more than it is seen here. Most of these patients are treated by local quacks, paramedics, and general practitioners in villages by giving them antibiotics and Metronidazole, so they are not reported to proper facility. Similarly, there is seasonal variation in the incidence of infections related bloody diarrheas in our societies<sup>11, 12</sup>. So this study does not truly represent the true incidence of these cases. Stool culture is an important tool in investigating such cases. The yield of stool culture varies in different studies. It may range from 2% to 30% in some studies. Stool culture was performed in 28 of our patients, and only 2 cases were positive amongst 15 cases of bacterial dysentery (12.6%). This is consistent with literature<sup>13</sup>.

Amebiasis is an important cause of bloody diarrhea. Our study revealed 7 cases (14%). The diagnosis of these cases was based on the presence of Trophozoites of *E-histolytica*, proctosigmoidoscopic findings and response to Metronidazole. These patients were followed up for a year

later on, but had no relapse of symptoms.

Two of our patients were found to have colorectal tumors, so it is imperative that every patient with bloody diarrhea should undergo Proctosigmoidoscopy especially when there is no response to antibiotics<sup>14</sup>.

Although, the commonest cause of bloody diarrhea in the community may be infectious diarrhea, but because of the poverty, social issues, lack of medical services, and other reasons, many cases of infective diarrheas are not reported to the tertiary care hospital. Similarly recurrent bloody diarrhea is a characteristic feature of UC rather than infective diarrhea. This study is contrary to the international literature which shows the predominance of Infective etiology inpatients presenting with bloody diarrhea.

This study did not reveal any patient with ischemic colitis, viral proctocolitis and Pseudo membranous colitis, possibly because of the small size of the study.

Fibreoptic Proctosigmoidoscopy is a safer and simple procedure in experienced hands, and is an important tool in the diagnosis of patients with acute bloody diarrheas. Small mucosal ulcers, bleeding points, exudates, small polyps and pseudo-polyps can be seen. Rectal and colonic biopsy can be taken with the help of this procedure. Although, the findings of each condition may not be so specific, but adding proper history, physical examination, laboratory investigations, and Barium studies will help in proper diagnosis of such patients. It can be done even in under-prepared patients, and can be done even if there is active bleeding<sup>15-17</sup>.

## CONCLUSION

The most common causes of acute bloody diarrhea are UC, Bacterial and Amebic proctocolitis in this study. But other rare causes like viral proctitis, Pseudo membranous colitis, ischemic colitis, and tumors should always be considered in the differential diagnosis of bloody diarrheas.

Fibreoptic Proctosigmoidoscopy is a simple and easier technique for the diagnosis of acute bloody diarrheas especially when symptoms persist for more than a week, or the symptoms are recurrent. Although sometimes the sigmoidoscopic findings of different conditions are similar, this procedure should be supplemented by other investigations like stool culture, rectal biopsy and Barium enema examination.

This study is a baseline study, which will provide insight to the doctors in our community and guide further prospective studies in patients presenting with acute bloody diarrheas.

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