

# Colonoscopy finding of Lower Gastrointestinal Bleeding (LIGB) in AlSeder Medical City (in Al-Najaf)/Iraq

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## Abstract

**Background:** Lower gastrointestinal bleeding can present as an acute and life-threatening event or as chronic bleeding, which might manifest as iron-deficiency anemia, fecal occult blood or intermittent scanty hematochezia and Patients should be continuously monitored.

**Aim:** To evaluate the etiological causes of Lower gastrointestinal bleeding in Al-Najaf city.

**Patients and Methods:** A prospective study included 303 patients presented with lower GI bleeding was conducted in Al-sader medical City from January 1<sup>st</sup>, 2012 to January 1<sup>st</sup>, 2014 in this study all patients and all age group with lower GI bleeding were enrolled

**Results:** The most common 3 causes were ulcerative colitis in 95 patients, cancer in 66 patients and polyps in 46 patients. Males were predominant among cases, 187/303 Most etiologies were more frequent in males than females . Ulcerative colitis was more frequent in younger age group , 79% in patients below 50 years. 60% of cancer cases where in the rectum, followed by sigmoid 25%, while remainder parts of colon constitute only 14% as a site for cancer.

## Conclusion

Ulcerative colitis ,neoplasm and polyps are the more frequent etiologies of LIGB. The most common causes of LIGB in pediatrics is juvenile polyps followed by ulcerative colitis.

**Keywords:** Colonoscopy, GIT bleeding, Incidence of LIGB, Etiology, Management, operation

## INTRODUCTION

Lower gastrointestinal bleeding (LIGB) is defined as bleeding distal to the ligament of Treitz [1]. Most studies of LIGB specifically reported that lesions of the colon, rectum, and anus are the most common aetiological sites [2]. It is usually suspected when patients complain of hematochezia [passage of maroon or bright red blood or blood clots per rectum][3]. This is different from the clinical presentation of upper gastrointestinal (GI) bleeding, which includes hematemesis [vomiting of blood or coffee ground-like material] and/or melena [black tarry stools][4]. Although helpful, the distinctions based upon stool color are not absolute since melena can be seen with GI bleeding from the right colon or small intestine, and hematochezia can be seen with massive upper GI bleeding [3-5]. Black tarry appearing stools medically referred to as melena usually indicates blood that has been in the GI tract for at least 8 hours. Melena is four-times more likely to come from an upper gastrointestinal bleed than from the lower GI tract; however, it can also occur in either the duodenum and jejunum, and occasionally the portions of the small intestine and proximal colon[5]. Bright red stool is the sign of a fast moving active GI bleeding[6]. The presence of hematochezia is six-times greater in a LIGB than with a UGIB Therefore, it is imperative to exclude a massive upper GI bleed in unstable patients presenting with hematochezia [7]. A nasogastric tube lavage that yields blood or coffee ground-like material confirms the diagnosis of upper GI bleeding; however, lavage may not be positive if bleeding has ceased or arises beyond a closed pylorus[8]. LIGB can present as an acute and life-threatening event or as chronic bleeding, which might manifest as iron-deficiency anemia, fecal occult blood or intermittent scanty hematochezia [9]. Acute LIGB is arbitrarily defined as LIGB of less than three days' duration, and that may result in instability of vital signs, anemia, and/ or the need for blood transfusion[10]. Chronic LIGB is the passage of occult or overt blood per rectum over a period of several days or longer and usually implies intermittent or slow loss of blood [11]. The patient with chronic bleeding can have occult fecal blood, occasional episodes of melena or maroon stools, or small quantities of visible blood per rectum in more than 95% of patients with lower GI bleeding, the source of hemorrhage is usually the colon [12]. The small

intestine is only occasionally responsible for lower GI bleeding, and because these lesions are not typically diagnosed with combination of upper & lower endoscopy, they considered in the section on obscure cause of GI bleeding . If bleeding is slower or from more proximal source , lower GI bleeding often presented as melena. Hemorrhage from lower GI tract tend to be less severe & intermittent .& more commonly cease spontaneously than upper GI bleeding [12].

Bleeding from the small bowel has been shown to be a distinct entity. Several factors might contribute to increased mortality including severe episode of bleeding, recurrent bleeding in those with advanced age, comorbidity, intestinal ischemia, and hemodynamic instability[20]. Colonoscopy is the diagnostic and therapeutic procedure of choice, for acute and chronic bleeding. It is mainstay of diagnosis ,because it allow visualization of pathology in colon , rectum & distal ileal sources of the bleeding [13].Furthermore, it can be therapeutic, as in cases of polyps, cauterization or clipping of a bleeder, injection of adrenaline or sclerosing agent.

The incidence of serious complications is low (about 1 in 1,000 procedures) [19]. Patients should be continuously monitored during urgent endoscopy using ECG and noninvasive measurement of oxygen saturation . In case of hemodynamic instability, patients must undergo volume resuscitation before endoscopy.in patients with hematochezia and concurrent hemodynamic instability, esophagogastroduodenoscopy (EGD) should be performed first to exclude an upper gastrointestinal bleeding source [14]. otherwise, colonoscopy is recommended as the first step in the evaluation of acute LIGB. The timing of colonoscopy after initial presentation varies among studies from 12 h to 48 h[15].Colonoscopy can determine the source and type of bleeding, and can help to identify patients with ongoing hemorrhage or those who are at high risk of re-bleeding.

If necessary, the diagnostic yield for urgent colonoscopy in acute LIGB is 89–97% [9].Current recommendations advise thorough cleansing of the colon in acute LIGB, as this procedure facilitates endoscopic visualization, improves diagnostic yield, and presumably improves the safety of the procedure by decreasing the risk of perforation [6].

Table 1. Findings According to Gender

Findings	Male		Female		Total no.	
	No.	%	No.	%	No.	%
Ulcerative colitis	57	30.5	38	32.8	95	31.4
CA	38	20.3	28	24.1	66	21.8
Polyps	34	18.2	15	12.9	49	16.2
Non-specific colitis	8	4.3	9	7.8	17	5.6
Esinophilic colitis	9	4.8	7	6.0	16	5.3
diverticulosis	11	5.9	4	3.4	15	5.0
Juvenile polyps	9	4.8	2	1.7	11	3.6
Small intestine causes	4	2.1	3	2.6	7	2.3
Solitary rectal ulcer	3	1.6	4	3.4	7	2.3
Crohns disease	4	2.1	2	1.7	6	2.0
Angiodysplasia	2	1.1	2	1.7	4	1.3
Rectal varicose	4	2.1	0	0.0	4	1.3
Ischemic colitis	2	1.1	1	0.9	3	1.0
others*	2	1.1	1	0.9	3	1.0
Total	187	100.0	116	100.0	303	100.0

\*Rectal endometriosis and Foreign body (silk granuloma)

### PATIENTS AND METHODS

A prospective study of 303 patients presented with LGIB was conducted in Al-sader medical City from January 1<sup>st</sup>, 2012 to January 1<sup>st</sup>, 2014 . in this study all patients and all age group with LGIB were enrolled

Patient with persistent hemodynamics instability, or anal and perianal pathology, was excluded.

**Bowel preparation:** standard mechanical preparation perform prior to colonoscopy which consist of :

1. Take clear fluids diet for two days prior to colonoscopy .
2. Use colocalean powder four packets, each packet dissolved in four cups of water , patient took one cup each 15 minutes before one day start from afternoon till evening.
3. Rectal enemas for one day before exam(10 enemas)
4. At morning of examination day 2 rectal enemas.

Procedures done under sedative drug(midazolam) for some patients and patient monitored by pulse oxymeter during procedure . During procedure in some cases polypectomy was performed for polyps. Some patient had bad preparation so those patients deferred for new appointment. Any suspicious lesions were biopsied and sent for histopathology & result were followed. Statistical analysis was performed using the statistical package for social sciences , version 16, IBM. Descriptive statistics presented as frequencies, percentages, mean and standard deviation.

### RESULTS:

In this study 303 patients with LGIB were underwent colonoscopy, the finding were as following:

We found 16 different causes were responsible on LGIB, the most common 3 causes were ulcerative colitis 95 patients, followed by cancer 66 patients, polyps 46 patients, remaining cause less common.

table 1 we compared the finding between males and females, the male patients more than female in all etiology or in some etiology had equal incidence .and total number of males were 187/303 ,while female 116/303.

Table 2. Findings in Pediatric Age Group

Findings	Male		Female		Total	
	No.	%	No.	%	No.	%
Juvenile polyps	9	56.3	2	25.0	11	45.8
Ulcerative colitis	4	25.0	4	50.0	8	33.3
Above ileocecal valve	0	0.0	1	12.5	1	4.2
Angiodysplasia	1	6.3	0	0.0	1	4.2
Solitary rectal ulcer	0	0.0	1	12.5	1	4.2
Non-specific colitis	2	12.5	0	0.0	2	8.3
Total	16	100.0	8	100.0	24	100.0

Table 3. Age Distribution of ulcerative colitis patients

Age (year)	No. of patients	%
≤ 20	13	13.7
21 – 30	23	24.2
31 – 40	20	21.1
41 – 50	18	19.0
51 – 60	21	22.1
Total	95	100.0

Table 4: Extent of involvement

Types	No.	%
Recto-sigmoid UC	69	72.6
Pan colitis	26	27.4
Total	95	100.0

Table 5. Sites of bleeding in CA group

Site	Numbers (No.)	%
Rectum	40	60.6
Sigmoid	17	25.8
Left colon	2	3.0
Transverse colon	2	3.0
Right colon	5	7.6
Total	66	100.0

Table 6: Age distribution of CA groups

Age (year)	No. of patients	%
≤ 20	0	0.0
21 – 30	2	3.0
31 – 40	9	13.6
41 – 50	10	15.2
51 – 60	12	18.2
> 60	33	50.0
Total	66	100.0

### DISCUSSION:

Lower gastrointestinal hemorrhage is a complex clinical problem that requires disciplined and sophisticated evaluation for successful management [16]. Colonoscopy is the diagnostic procedure of choice both for its accuracy in localization and its therapeutic capability [17]. Selective mesenteric angiography should be reserved for those patients in whom colonoscopy is not practical. Precise identification of the bleeding source is crucial for a successful outcome [18]. In the current study the etiology of LGIB was differ from result that obtained at different centers in other countries [18], while it is approximately similar to another study done Iraq [19].

In our study the most common etiology was ulcerative colitis which constitute about 31.4% as compared with other study in another centers in which diverticulosis is the most common cause in a different percent 20-65% of LGIB [20,21] while diverticulosis in our study constitute only 5%. The second most common cause in our study is colonic cancer which contributes 21.8% which is higher than that reported in other studies, Longstreth G. et al reported only 9.1% of LGIB due to cancer [20-23].

The third most common cause in the present study is polyps which found in 46 patients (16.2%). other less common causes in descending order of frequency are non-specific colitis, eosinophilic colitis, diverticulosis, juvenile polyps, bleeding from small intestine, solitary rectal ulcer, crohns disease, angiodysplasia, rectal varices, ischemic colitis, rectal endometriosis, amebiasis and lastly F.B(silk) granuloma, the sequence of etiological factors of LGIB in the present study was different than that in the ASA guidelines [22,23] where the frequency as following from most common to least common, diverticulosis, ischemic colitis, angiodysplasia, hemorrhoid, C.A, polyps, IBDS, Infectious colitis, NSAID-induced colopathy, Radiation colopathy, stercoral rectal ulcer, rectal varices, Dieulafoy's lesions in small and large bowels, Small-bowel sources and HIV related causes. while in study of Longstreth G. et al. [21] in which the most common causes diverticulosis is the most common cause 41.6%, cancer 9.1%, ischemic colitis 8.7%, miscellaneous 28.8% and unknown 11.9%. From these we can say that the etiology of LGIB differ between countries in incidence and prevalence, as the percent of incidence different between our study and other study, also some etiological factor are present in our study like amebiasis and not mentioned in other studies [18-23]. In the present study LGIB was more frequent in male (187 patients) 61.716% as compared with female (116 patients) 38.3%, and male more than female almost in all etiologies this probably because social factors that make female avoid colonoscopy [22-24]. in pediatrics patients (24/303) etiological factor differ in their incidence, so the most common is cause is juvenile polyp 45.833% followed by ulcerative colitis 33.3%, then non-specific colitis 8.3%, then solitary rectal ulcer, small bowel causes and angiodysplasia each 4%. also male more than female in pediatrics 2:1 male to female, when compare these results in pediatrics with other study done on pediatrics patients, the results nearly similar, in Romania 2014 [25,26] polyps are the most common cause 33% followed by ulcerative colitis 22%, nonspecific colitis 18.6%, fissure 17.7%

,rectal ulcer 3.4%, small bowel causes 3.3%, rectal diverticulum 0.8% and lastly angiodysplasia 0.8%, almost close frequencies of etiological factors were reported in Iran [25].

In patients with ulcerative colitis as a cause of bleeding, equal distribution among patients between 3<sup>rd</sup>-6<sup>th</sup> decade except 2<sup>nd</sup> decade is slightly lower than other. Also in ulcerative colitis patients 72.6% are of recto sigmoid type while 27.4% are of pan colitis. the age distribution in patient with cancer etiology we found 50% of patients are above 60 years old then incidence decreasing progressively with decreasing age reaching to zero in patient below 20 years. also in cancer group we found that 60.60% of patient with cancer etiology of bleeding their tumors are in the rectum, followed by sigmoid 25.8% then right colon 7.6% and both left and transverse colon had 3.03% for each one, so rectosigmoid region constitute the sites of 86% of cancer presented with LGIB, while remainder of colon only 14%. However, there is a wide variation in the etiological factors of LGIB, and the variation extended even within the same regional area and country [22-26]. Hence further studies with larger sample size and multicenter are suggested for more investigating the etiological factors of LGIB.

### CONCLUSION :

The most common etiology of LGIB in Al-Najaf center of GIT is ulcerative colitis, neoplasm and polyps which constitute 69% of LGIB causes. There are clear similarity in most common causes of LGIB in Iraq. The most common causes of LGIB in pediatrics is juvenile polyps followed by ulcerative colitis

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