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A Comprehensive Study of Lower Gastrointestinal Bleeding and It's Management

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Abstract
Introduction: *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.*
Materials and Methods: *This comprehensive study was carried out on patients of lower gastrointestinal bleeding due to various diseases over a period of two years (2011 & 2012), in M.*
G. Hospital, Department of Surgery attached to Dr. S.N. Medical College and associated group of hospitals, Jodhpur. Patients will be evaluated by History & clinical examination, Blood investigation, Proctosigmoidoscopy, Colonoscopy, Radiological investigation. Need of blood transfusion & specific management.
Results: *In the present study a total no. of 105 patient were taken in the two years study period 2011-12.In present study 2% of the patient presenting as lower gastrointestinal bleeding have a source proximal to ligament of Trietz and these cases were excluded from the studies. Out of 23 patients surgery was done in 9 patients. Total colectomy was done in 2 patients with ulcerative colitis & 1 with ischemic colitis. Right hemicolectomy was done in patients with bleeding from enteric ulcers. Resection anastomosis (ileo-ileal) was done in 2 patients with ischemic colitis. In 1 patient with tubercular ulcers ileotransverse bypass was done. Aneurysmectomy was done in 1 patient having internal iliac artery aneurysm having connection with rectum.*
Conclusion: *With any case of lower GI bleeding, an upper GI cause should be ruled out. Important tools to diagnose the possible cause are history and physical examination. Perianal site is the most common site of LGIB. Hemorrhoids are the most common cause of chronic intermittent LGIB. Ulcerative colitis is the most frequent cause of acute LGIB. Common colorectal pathologies prevalent in present population include colorectal carcinoma & colitis. Before embarking on any treatment resuscitation should be started early. 80% of lower GI bleeding cases will stop spontaneously without any treatment. Surgery should be the last option should the bleeding persists.*
Key Words: *Acute colonic bleeding, hematochezia, melena, colectomy*

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I. Introduction

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 h 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. 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.

II. Material and Methods

This comprehensive study was carried out on patients of lower gastrointestinal bleeding due to various diseases over a period of two years (2011 & 2012), in M. G. Hospital, Department of Surgery attached to Dr. S.N. Medical College and associated group of hospitals, Jodhpur.

Patients will be evaluated by:-

1. History & clinical examination
2. Blood investigation
3. Proctosigmoidoscopy, Colonoscopy, Radiological invetigation.

Need of blood transfusion & specific management

III. Results

TABLE 1: SOURCE OF GI BLEEDING PRESENTING AS LGIB

Acute GIB	Frequency	%
Source proximal to ligament of Treitz	2	1.90
Source distal to ligament of Treitz	103	98.95
TOTAL	105	100

In the present study a total no. of 105 patient were taken in the two years study period 2011-12.In present study 2% of the patient presenting as lower gastrointestinal bleeding have a source proximal to ligament of Trietz and these cases were excluded from the studies

FIGURE 1: SOURCE OF GI BLEEDING PRESENTING AS LGIB

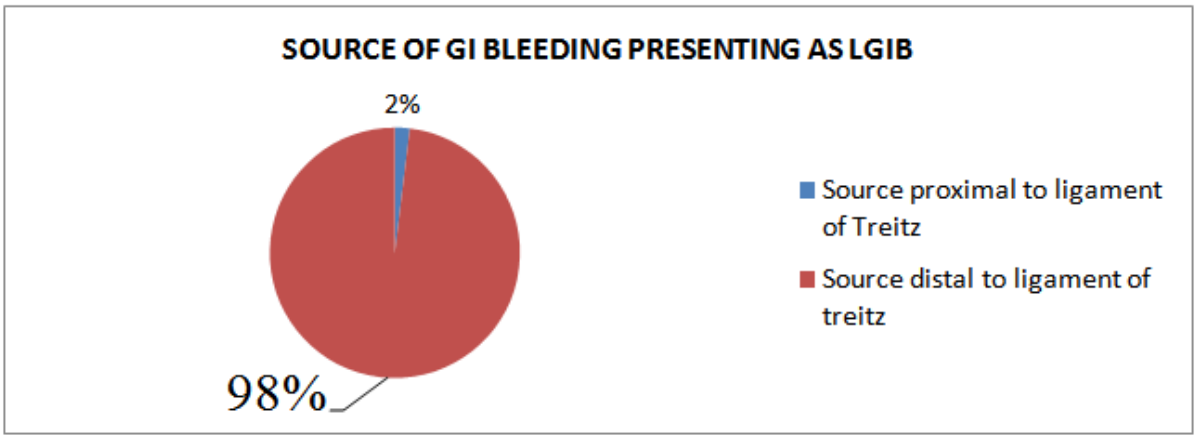


TABLE 2: AGE DISTRIBUTION

Age Group	Male	Female	Total	%
0 to 10	4		4	3.88
11 to 20	6	1	7	6.79
21 to 30	8	10	18	17.47
31 to 40	11	10	21	20.38
41 to 50	11	4	15	14.56
51 to 60	7	3	10	9.70
>60	15	13	28	27.84
TOTAL	62 (60.19%)	41 (39.81%)	103	
MEAN AGE	46	49	47.5	

In the present study youngest patient was of 3 years and the oldest one was of 80 years. The peak incidence was observed in 7^{th} decade,>60years (27.84).
Mean age of the patient was 47.5 years.

In present study it was found that majority of cases of LGIB are seen in males (60.19%).

TABLE 3: CAUSES OF LGIB

S.No	Disease	Male	Female	Total	%
1	Hemorrhoids	25	5	30	29.12
2	Colorectal Malignancy	9	13	22	21.35
3	Colitis	6	5	11	10.67
4	Ca Anal canal	2	1	3	2.91
5	Fissure in ano	4	10	14	13.59
6	Meckel's Diverticulitis	2	-	2	1.94
7	Rectal polyps	5	-	5	4.85
8	Tubercular ulcers	2	1	3	2.91
9	Enteric ulcers	1	1	2	1.94
10	Drug induced (Anticoagulants)	2	-	2	1.94
11	Aneurysm	1	-	1	0.97
12	Fistula in ano	1	-	1	0.97
13	Ileo ileal intussception	1	-	1	0.97
14	Small Intestine malignancy	-	1	1	0.97
15	Obscure	1	4	5	4.85
	TOTAL	62	41	103	100

Overall most common cause of LGIB was haemorrhoids (29.12%) followed by colorectal malignancy (21.35%), fissure in ano (13.59), colitis (10.67).

TABLE 4: ANATOMICAL LOCATION

Site	**Frequency**	**%**
Perianal	48	46.60
Colon(Colorectal carcinoma ,Colitis ,Polyp , Aneurysm)	39	37.86
Small intestine	9	8.73
Drugs induced(Anticoagulant)	2	1.94
Obscure	5	4.85
TOTAL	103	100

Perianal site (46.60%) is the most common region of LGIB followed by colon (37.80%).Small intestine is source only in 8.73 %.
In 5 patients (4.85%) cause of bleeding could not be determined.

TABLE 5: CLASSIFICATION OF LGIB

	Frequency	**%**
Acute LGIB	23	22.33
Chronic intermittent LGIB	80	77.66
TOTAL	103	100

In present study 23 patients (22.33 %) out of 103 were admitted as a case of acute LGIB. Chronic intermittent LGIB was considered as group 1 & Acute LGIB as group 2.

FIGURE 2: CLASSIFICATION OF LGIB

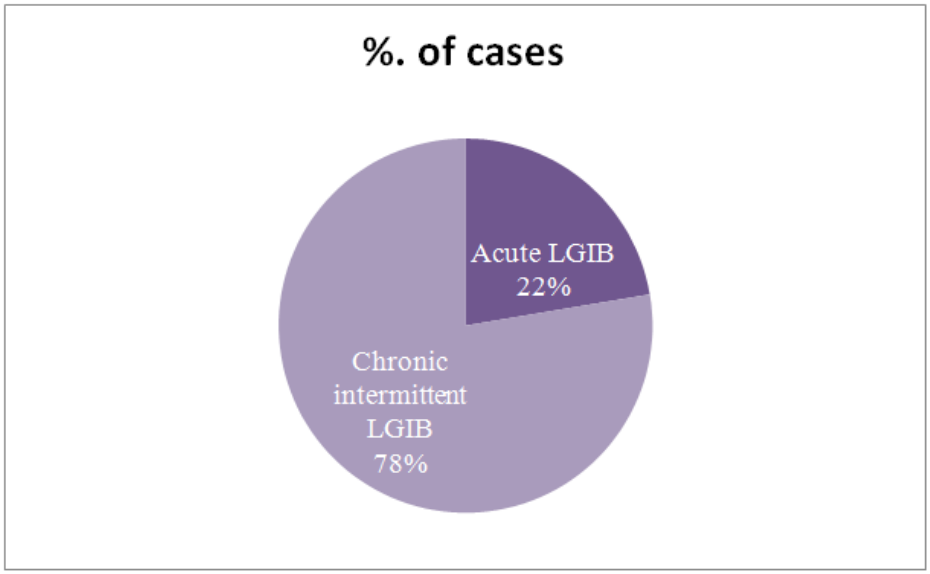


TABLE 6: CAUSES OF ACUTE LGIB

Ulcerative colitis 4 patients (17.39%) is the most common cause of acute LGIB along with ischemic colitis 4 patients (17.39%)

In 3 patients (13.04 %) source of bleeding was not identified by available facilities at our centre.

FIGURE 3: CAUSES OF ACUTE LGIB

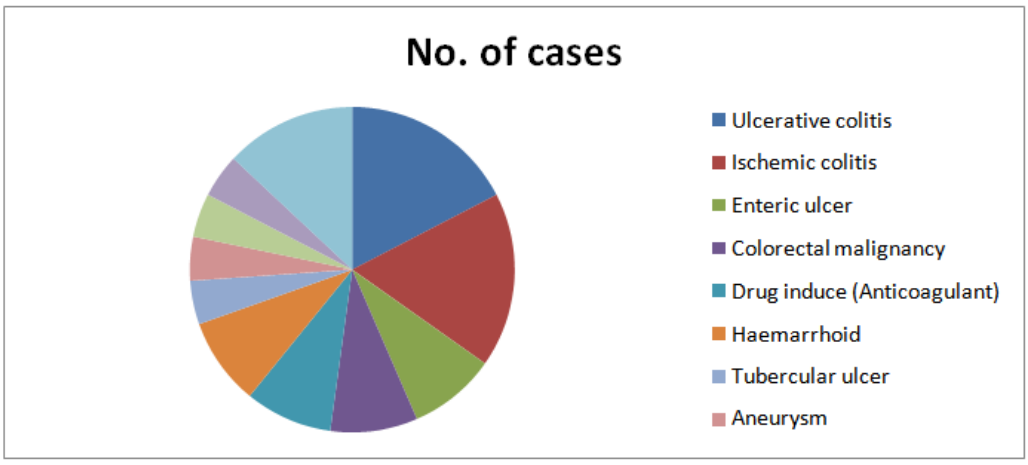


TABLE 7: SYMPTOMS

		Group 1		Group 2		Total	%
S.NO	**Symptoms**	**No. Of cases**	**%**	**No. Of cases**	**%**		
1	Haematochazia	61	76.25	20	86.95	81	78.64
2	Malena	7	8.75	3	13.04	10	9.70
3	Pain abd.	22	27.5	13	56.52	35	33.98
4	Altered bowel habits	7	8.75	1	4.34	8	7.76
5	Constipation	33	41.25	1	4.34	34	33.00
6	Diarrhea	2	2.5	6	26.08	8	7.76
7	Painful defeacation	14	17.5	-	-	14	13.59
8	Weight loss	11	13.75	2	8.69	13	12.62

Haematochazia alone was the major symptom in 76.25% & 86.95% in both groups. Constipation was mainly seen in cases of chronic intermittent LGIB (41.25%) & pain abdomen was mainly seen in cases of acute

LGIB (56.52 %) In our studies 35 (33.98 %) patients had a history of abdominal pain. History of diarrhea was present in 8(7.76%) where as history of weight loss was present in 13 (12.62%) patients.

FIGURE 4: SYMPTOMS

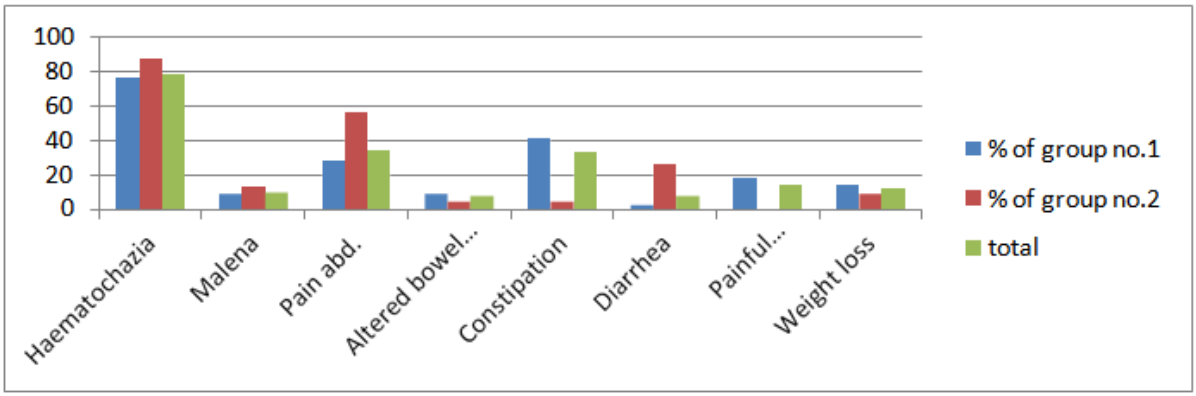


TABLE 8; SIGNS/CLINICAL EXAMINATION

		Group 1		Group 2			
S.NO.	**CLINICAL EXAMINATION**	**No. of cases**	**%**	**No. of cases**	**%**	**Total**	**%**
1	Pallor	20	25	10	43.47	30	29.12
2	Tachycardia	13	16.30	9	39.13	22	21.35
3	Hypotension	-	-	2	8.69	2	1.94
4	Abd. Distention	7	8.75	5	21.73	12	11.65
5	Abd. tendemess	4	5	4	17.39	8	7.76
6	Guarding/rigidity	1	1.25	2	8.69	3	2.91
7	Abd. Lump	7	8.75	2	8.69	9	8.79
8	Abnormal PR/Anal examination	60	75	2	8.69	62	60.19

Pallor was mostly seen in cases of acute LGIB. Features of cardiovascular instability like tachycardia (39.13%) & hypotension (8.69 %) was seen mainly in acute LGIB.Abnormal PR/Anal examination was present in most of the patient (75 %) of chronic intermittent LGIB.

FIGURE 5: SIGNS/CLINICAL EXAMINATION

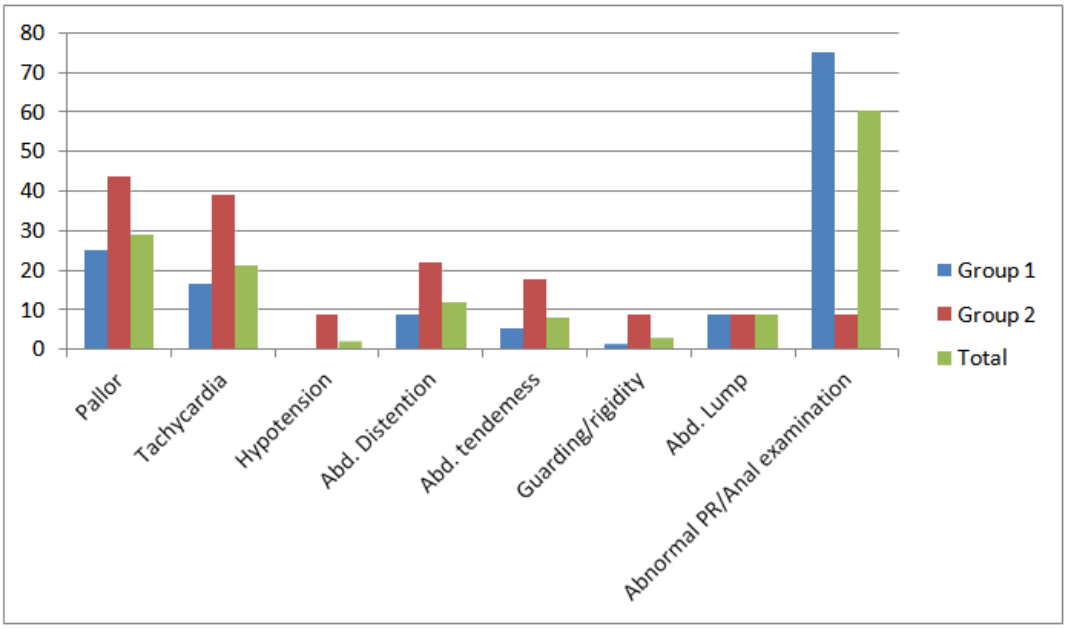


TABLE 9: BLOOD INVESTGATION

			Group 1		**Group 2**			
S.NO.	Blood investigation		No. of cases	%	No. of cases	%	Total	%
1	HB (gm/dl)	< 6	11					

			13.755	21.73	16	15.53
		6 to 10	18				
			22.510	43.47	28	27.18
		> 10	51				
			63.758	34.78	59	57.28
2	Abnormal RFT		1				
			1.254	17.39	5	4.85
3	Deranged coagulation profile		-				
			- 3	13.04	3	2.91

In present study most of the patients have hb >10gm/dl with chronic intermittent LGIB & 6-10 gm/dl acute LGIB.
Deranged renal function tests were mostly associated with acute LGIB.
Deranged coagulation profile was seen in 3 patients having acute LGIB.

FIGURE 9: BLOOD INVESTGATION

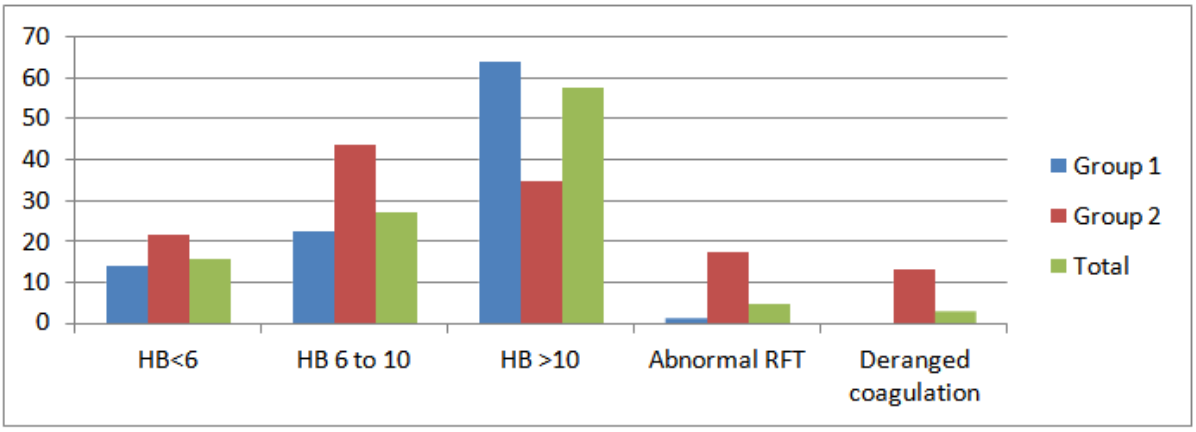


TABLE 10; SPECIFIC INVESTIGATION

		Group 1	**Group 2**			
S.NO.		No. of cases	No. of %cases	%	Total	%
1	Protoscopy	66	82.523	100	89	86.40
2	Colonoscopy	28	3516	69.56	44	42.71
3	Upper GI endoscopy	2	2.53	13.04	5	4.85
3	CT scan	13	16.256	26.08	19	18.44
4	USG	6	7.52	8.69	8	7.76

Proctoscopy was the mainstay of diagnosing perianal diseases which were the most common cause of chronic intermittent LGIB.Colnoscopy was the mainstay of diagnosing the patients with acute LGIBUpper GI endoscopy was done when both proctoscopy & colonoscopy were inconclusive.CT scan was done mainly in cases of malignancy for local spread & respectability oftumor

FIGURE 10: SPECIFIC INVESTIGATION

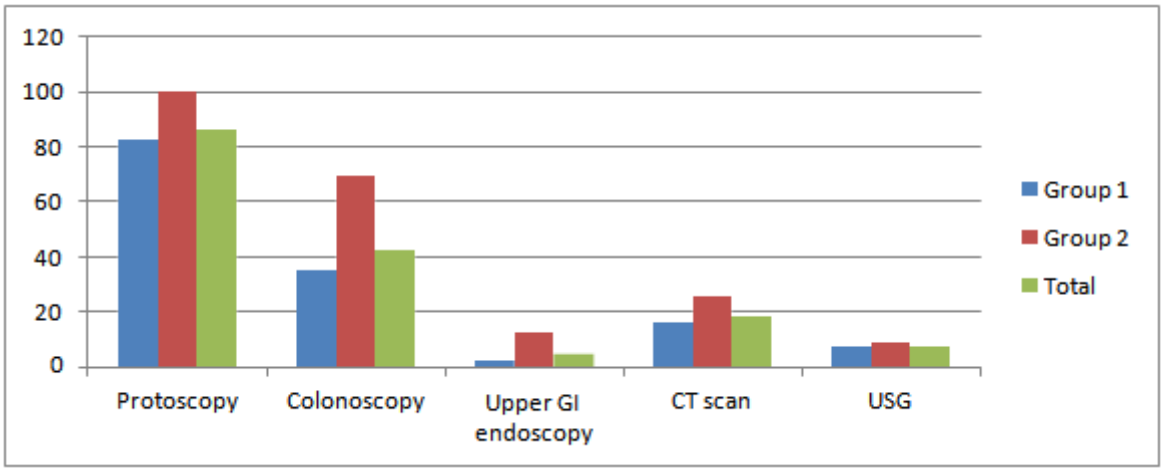


TABLE 11; COLONOSCOPIC FINDINGS

A. IN CHRONIC LGIB

Colonoscopic findings	Frequency	%
Normal	2	7.14
Growth rectosigmoid	10	35.8
Growth sigmoid	3	10.71
Growth desc. Colon	3	10.71
Growth asc colon	1	3.57
Growth of caecum	2	7.14
Rectal polyp	4	14.28
Tubercular	1	3.57
Incomplete examination	2	7.14
TOTAL	28	

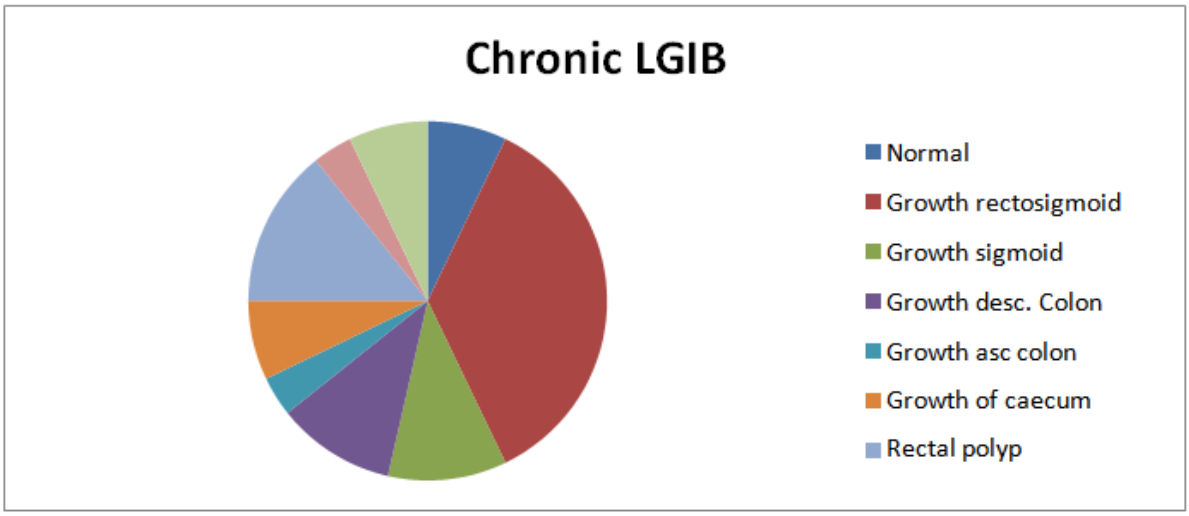
Total 28 colonoscopies were done with chronic LGIB. Most common colonoscopic finding was colorectal malignancy in cases with chronic LGIB (perinal causes excluded). Rectosigmoid site was the most common site of malignancy.

B. IN ACUTE LGIB

Colonoscopic findings	Frequency	%
Normal	3	18.75
Growth rectosigmoid	1	6.25
CMV colitis	1	6.25
Ischemic colitis	1	6.25
Ulcerative colitis	4	25
Enteric ulceration caecum	1	6.25
Tubercular ulcerations	1	6.25
Apthous ulcer colon	1	6.25
Hemorrhoid (internal)	1	6.25
Incomplete examination	2	12.5
TOTAL	16	

16 patients were subjected for colonoscopic examination in patients with acute LGIB. Ulcerative colitis (25 %) was the commonest colonoscopic finding when colonoscopy was done for acute LGI

FIGURE 11; A & B



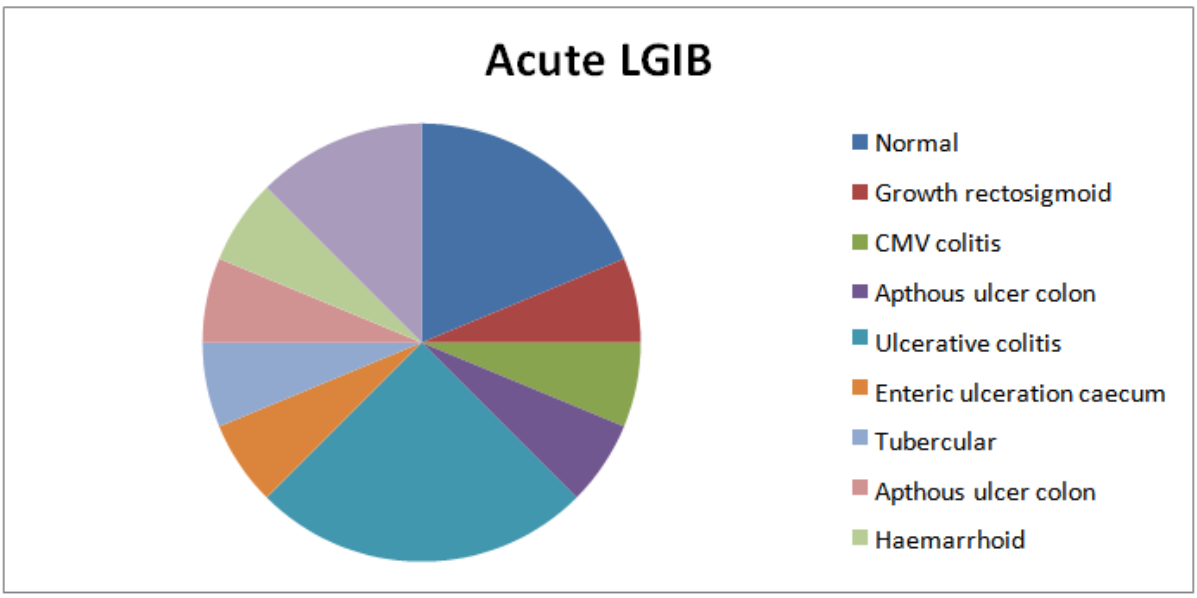


TABLE 12; HISTOPATHOLOGICAL FINDING

Findings	frequency	%
Ulcerative colitis	4	9.09
CRC	20	45.45
Tubercular ulcer	2	4.54
Apthous ulcer	1	2.27
Rectal polyp	1	2.27
Biopsy specimen not taken	16	36.36
Total	44	100

Out of 44 colonoscopic examination biopsy specimens' were taken in 28 patients (66 %).

TABLE 13; SURGICAL PROCEDURE IN ACUTE LGIB

Surgical procedures	No. of cases	%
Total colectomy	3	13.04
Right hemicolectomy	2	8.69
Resection anastomosis(ileo-ileal)	2	8.69
Bypass (ileotransverse)	1	4.34
Aneurysmectomy	1	4.34

Out of 23 patients surgery was done in 9 patients. Total colectomy was done in 2 patients with ulcerative colitis & 1 with ischemic colitis. Right hemicolectomy was done in patients with bleeding from enteric ulcers. Resection anastomosis (ileo-ileal) was done in 2 patients with ischemic colitis. In 1 patient with tubercular ulcers ileotransverse bypass was done. Aneurysmectomy was done in 1 patient having internal iliac artery aneurysm having connection with rectum.

TABLE 14: AVERAGE HOSPITAL STAY IN ACUTE LGIB

Duration of stay in days	No. of cases	%
One week (0-7)	8	34.78
Two weeks (8-14)	6	26.08
Three weeks (15-21)	7	30.43
Four weeks or more..	2	8.69
TOTAL	23	

Most of the patients (61%) were discharged within 2 weeks. Only 2 patients stayed for 4 weeks or more. Mean duration of hospital stay was of 10 days for patients with acute LGIB.

TABLE 15; MORTALITY

Group	No. of death	Total cases	%
Acute LGIB	3	23	13.04
Chronic LGIB	1	80	1.25
TOTAL	4	103	3.88

Overall mortality for LGIB was 3.88%. Mortality was higher in patients presented with acute LGIB (13.04%). Cause of death was ARDS because of septicemia & multiorgan dysfunction in patients with acute LGIB. Septicemic shock was the cause of death in patient chronic LGIB which was a case of ca rectum presented as perforation peritonitis.

IV. Discussion

This study was carried out in department of general surgery, Mahatma Gandhi hospital affiliated to Dr. S.N. Medical College, Jodhpur.

There is a paucity of literatures of the overall incidence of LGIB in India. Western statistics of LGIB occurrence are not much relevant to us as they have a different age distribution, disease pattern, and these patients have a ready access to sophisticated hospital facilities

Exclusion of an Upper Gastrointestinal Source

In the present study during 2011-12 a total no. of 105 patients were included. In this study 2% of the patient presenting as lower gastrointestinal bleeding have a source proximal to ligament of Trietz and these cases were excluded from the studies.

Benita K.T. Tan et al reported 1% percent bleeding from the upper gastrointestinal tract.

Several tools in addition to stool color are used to discriminate upper from lower gastrointestinal bleeding. This is an important step because 2% to 15% of patients with presumed LGIB will have UGIB as shown by study of ***Jensen et al*** [25]. Nasogastric lavage is a quick and safe procedure, but to avoid unnecessary patient discomfort, it should be reserved for patients with evidence of brisk bleeding in whom an upper endoscopy is not anticipated. Passage of bright red blood resulting from upper gastro intestinal bleeding is associated with hemodynamic instability (shock or orthostatic hypotension). the presence of blood in nasogastric tube aspirates is highly predictive of bleeding proximal to the ligament of Treitz, but this source cannot be excluded if blood is absent from the aspirate.

Age & sex distribution

In the present study mean age of the patient was 47.5 years & age group was 3-80 years. The peak incidence was observed in 7^{th} decade,>60years(27.84).

Nadeem et al reported mean age as 41.04 years and age group of 19-70 years. ***Benita K.T. Tan et al***. reported the mean age was 42 years (group of 15–97 years). ***Faisal Abufafalgha et al*** reported the mean age of 41 years (range, 17-95 years),

In present study it was found that majority of cases of LGIB are seen in males (60.19%).These datas are similar to other studies. ***Nadeem et al*** reported male (74%), ***& Faisal Abufafalgha et al*** reported males (64 %) incidences.

Causes of LGIB

Perianal site (46.60%) is the most common region of LGIB followed by colon (37.80%).Small intestine is source only in 8.73 %.

In 5 patients (4.85%) cause of bleeding could not be determined.

Overall most common cause of LGIB was haemorrhoids (29.12%) followed by colorectal malignancy (21.35%), fissure in ano (13.59), colitis (10.67).

Benita K.T. Tan et al. The result of their study is as follows: Of the patients admitted, 87% were admitted due to perianal conditions diagnosed at bedside proctoscopy, where haemorrhoids made up 94%.

Faisal Abufafalgha et al the site of bleeding was in the perianal region in 66 patients (74%) and in colorectal region in 23 patients (26%).

The bleeding site and cause are strongly related to the age of the patient. It is well known that diverticulosis and arteriovenous malformation have been found to be more common in the elderly [56], while perianal causes such as hemorrhoids and anal fissures occur in the younger age group[57]. The risk of malignancy in patients with per rectal bleeding is also increasing with age.

In present series of patients presenting with lower gastrointestinal bleeding, hemorrhoids were the most common cause. This is similar to the situation in the United States [58], and similar to a series from Singapore by ***Tan et al*** [55]. Hemorrhoids were also found to be the most common cause of bleeding per rectum in a Jordanian review of 701 patients [58]. There is a general agreement in most of series that, the overall most common cause of rectal bleeding is hemorrhoids.

V. Conclusion

With any case of lower GI bleeding, an upper GI cause should be ruled out. Important tools to diagnose the possible cause are history and physical examination. Perianal site is the most common site of LGIB. Hemorrhoids are the most common cause of chronic intermittent LGIB. Ulcerative colitis is the most frequent cause of acute LGIB. Common colorectal pathologies prevalent in present population include colorectal carcinoma & colitis. Before embarking on any treatment resuscitation should be started early. 80% of lower GI bleeding cases will stop spontaneously without any treatment. Surgery should be the last option should the bleeding persists.

References

[1] Talley NJ, Jones M. Self-reported rectal bleeding in a United States community: prevalence, risk factors, and health care seeking. *Am J Gastroenterol*. Nov 1998;93(11):2179-83.

[2] Baum S, Nusbaum M, Blakemore WS, Finkelstein AK. The preoperative radiographic demonstration of intra-abdominal bleeding from undetermined sites by percutaneous selective celiac and superior

[3] mesenteric arteriography. *Surgery*. Nov 1965;58(5):797-805.

[4] Rosch J, Gray RK, Grollman JH Jr, et al. Selective arterial drug infusions in the treatment of acute gastrointestinal bleeding. A preliminary report. *Gastroenterology*. 1971;59(3):341-9.

[5] Rösch J, Dotter CT, Brown MJ. Selective arterial embolization. A new method for control of acute gastrointestinal bleeding. *Radiology*. Feb 1972;102(2):303-6.

[6] Meyers MA, Alonso DR, Gray GF, Baer JW. Pathogenesis of bleeding colonic diverticulosis. *Gastroenterology*. Oct 1976;71(4):577-83.

[7] Vernava AM, Longo WE, Virgo KS. A nationwide study of the incidence and etiology of lower gastrointestinal bleeding. *Surg Res Commun*. 1996;18:113-20.

[8] Gayer C, Chino A, Lucas C, Tokioka S, Yamasaki T, Edelman DA, et al. Acute lower gastrointestinal bleeding in 1,112 patients admitted to an urban emergency medical center. *Surgery*. Oct 2009;146(4):600-6; discussion 606-7.

[9] Vernava AM 3rd, Moore BA, Longo WE, Johnson FE. Lower gastrointestinal bleeding. *Dis Colon Rectum*. Jul 1997;40(7):846-58.

[10] Longstreth GF. Epidemiology and outcome of patients hospitalized with acute lower gastrointestinal hemorrhage: a population-based study. *Am J Gastroenterol*. Mar 1997;92(3):419-24.

[11] Gupta N, Longo WE, Vernava AM 3rd. Angiodysplasia of the lower gastrointestinal tract: an entity readily diagnosed by colonoscopy and primarily managed nonoperatively. *Dis Colon Rectum*. Sep1995;38(9):979-82.

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