

## Clinical, colonoscopic and histopathological evaluation of lower gastrointestinal bleeding

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### تقييم النزف المعوي السفلي السريري وبمنظار القولون والتحليل النسيجي المرضي الخلاصة

**الخلفية:-** النزف المعوي السفلي يكون ٢٠% من كل حالات النزف المعوي. في السابق كان النزف المعوي يصنف إلى نزف علوي وسفلي وذلك نسبة إلى رباط تريتز التشريحي. نظرا للتقدم الحاصل في طرق التشخيص بالمنظاري يقترح إن يصنف النزف المعوي تصنيفا جديدا هو العلوي، والوسطي والسفلي. أهداف الدراسة:- لتقييم القدرة التشخيصية لمنظار القولون في النزف المعوي السفلي ولتحقيق في الأسباب الأكثر شيوعا للنزف المعوي السفلي في مجتمعنا.

**المرضى وطرق العلاج:-** هذه الدراسة مستقبلية أجريت في مركز الجهاز الهضمي في مستشفى الصدر التعليمي في مدينة النجف من شهر أيار ٢٠٠٨ ولغاية شهر نيسان ٢٠١١ تم اختيار المرضى في هذه الدراسة وفق معايير خاصة. حالما يستثنى النزف المعوي العلوي كسبب للنزف المعوي السفلي وعند استقرار حالة المريض يتم التشخيص بمنظار القولون لمعرفة سبب النزف المعوي السفلي. شملت الدراسة (٣٣٢) مريضا، منهم (٢٩٠) مريضا أجروا فحص منظار القولون كحالة باردة (مريض خارج المستشفى). أما (٦١) مريضا فقد أجروا الفحص كحالة طارئة (مريض داخل المستشفى). أخذت العينات للفحص النسيجي المرضي من كل منطقة غير طبيعية في غشاء القولون المخاطي وأرسلت إلى المختبر في المستشفى.

**النتائج:-** اجري منظار القولون ل (٣٣٢) مريضا يعانون من النزف عن طريق المستقيم. تراوحت أعمار المرضى بين ٥-٧٠ سنة. منظار القولون الكامل حتى منطقة الأور كان ناجحا عند (٣١١) مريضا أما منظار القولون كان غير كاملا عند ٢١ مريضا. أظهرت الدراسة أن ٨٨ مريضا كان منظار القولون السفلي طبيعيا عندهم. منهم ٣١ مريضا كان النزف المعوي العلوي سببا للنزف عن طريق المستقيم. كما أظهرت الدراسة أن ٢٤٤ مريضا عندهم نتائج المنظار غير طبيعية

### الاستنتاجات:-

- ١- منظار القولون طريقة آمنة للتشخيص وذات نتائج تشخيصية عالية في تقييم النزف المعوي.
- ٢- الأسباب الأكثر شيوعا للنزف المعوي السفلي تنازليا هي البواسير الشرجية، التهاب القولون والمستقيم، ورم القولون والمستقيم الخبيث وسليمة القولون والمستقيم.
- ٣- إن عمر المريض يعد عاملا مهما في تنبأ مسببات النزف المعوي السفلي.
- ٤- أن وجود الأمراض حول الشرج يجب إن يحدث شكاً بوجود مرضاً أعلى القولون وليس اعتباره سبباً رئيساً للنزف.
- ٥- إصابات الجانب الأيسر من القولون تشكل أغلبية أسباب نزف الأمعاء السفلي.

### Abstract

**Background:-** Lower gastrointestinal bleeding is about 20% of all gastrointestinal hemorrhage. (1) Gastrointestinal bleeding has previously classified into upper or lower relative to the ligament of Treitz. However, with advances in endoscopic methods for the diagnosis, it is suggested to be classified into upper, mid, and lower. (2)

**Objectives:-** To evaluate the diagnostic yield of colonoscopy in lower intestinal bleeding and to investigate the common causes of lower intestinal bleeding in our community.

**Patient and method:-** This is a prospective study done in the Gastroenterology center in Al-najaf city during the period from May 2008 to April 2011. 332 patients were selected for this study according to specific criteria. Once an upper gastrointestinal source of bleeding is excluded and the patient is hemodynamically stable, colonoscopy were done to define the cause of lower intestinal bleeding. The study include 290 patients

colonoscoped as outpatient (standard care colonoscopy) while 61 patients colonoscoped as inpatient(urgent colonoscopy).Abnormal area of colorectal mucosa was identified and biopsies were sent for histopathological examinations.

**Result:-**The study includes 332 patients presented with bleeding per rectum underwent colonoscopy. Patient's age range from 5-70 years. Complete colonoscopy to cecum was successful in 311 (93.67%) patients while incomplete in 21(6.33%) patients. No complications were recorded. The study revealed that 88 (26.51%) patients showed normal colonoscopy, of them 31(9.34%) patients found to have upper gastrointestinal cause of bleeding. While 244 (73.49%) patients have abnormal colonoscopic finding.

**Conclusion:-**

1-Colonoscopy is safe procedure and has a high diagnostic yield which is about 73.49% in evaluation of lower gastrointestinal bleeding.

2-The most common causes of rectal bleeding in colonoscopic and histopathological examinations are hemorrhoid, proctocolitis, colorectal adenocarcinoma and colorectal polyp.

3- The age is important factor to predict the aetiology of lower gastrointestinal bleeding.

4-Anorectal pathology should raise the suspension of proximal pathology rather than considering it as the source of bleeding.

5-Left sided lesions are the source of the lower gastrointestinal bleeding in the majority.

**Introduction:-** Lower gastrointestinal bleeding is a common condition, caused by a wide variety of pathologies. It represent about 20% of all gastrointestinal hemorrhage.<sup>(1)</sup>It present in four clinical conditions,(occult bleeding, melena, hematochezia and acute severe bleeding). Each of these conditions has different aetiology and requires different approaches to diagnosis. The most common pathologies in each group vary widely with age and geographic distribution. Gastrointestinal bleeding has previously classified into upper or lower relative to the ligament of Treitz. However, with advances in endoscopic methods for the diagnosis, gastrointestinal bleeding suggested to be classified into upper, mid, and lower.<sup>(2)</sup> Within this new classification upper gastrointestinal bleeding is above the ampulla of Vater,while mid gastrointestinal bleeding is between the ampulla of Vater and the terminal ileum. Lower gastrointestinal bleeding, according to this classification, is the bleeding within the colon.Mid and lower gastrointestinal sources of bleeding account for approximately 25% to 35% of all gastrointestinal bleeding condition. The diagnostic accuracy of colonoscopy and its efficacy for therapeutic intervention, even in the unprepped colon, depending on the definition of the bleeding source, patient selection criteria, and timing of colonoscopy, quality of colon preparation, and the experience of the endoscopist.<sup>(3)</sup>However there are controversies regarding the optimal timing of colonoscopy, the importance of colon preparation, the prevalence of stigmata of hemorrhage, and the efficacy of endoscopic homeostasis. A clear advantage of colonoscopy over other tests is its ability to provide both a diagnosis and homeostasis. The diagnostic yield of colonoscopy is higher than radiographic tests, which require active bleeding at the time of the examination, and flexible sigmoidoscopy, which visualizes only the left colon.<sup>(4)</sup>Flexible sigmoidoscopy and anoscopy can be performed early in cases of lower gastrointestinal bleeding to evaluate and treat left-sided or anorectal lesions, however most patients ultimately will require a full colonoscopy to exclude proximal pathology. In general, the aetiology of lower gastrointestinal bleeding is often age related.<sup>(5)</sup> In adults younger than 60 years diverticulosis, colitis and

neoplasia are the most frequent. Over 60 years, angiodysplasia, diverticulosis and neoplasia predominate.<sup>(6)</sup> In general, small bowel sources of lower gastrointestinal bleeding are more common in younger patients. Meckel's diverticulum, inflammatory bowel disease including Crohn's disease and polyps predominate here. In his study of small bowel hemorrhage, Lewis considers vascular lesions to be the most common followed by tumors.<sup>(7)</sup> However, small bowel tumors are rare.<sup>(8)</sup> The diagnosis of bleeding from the small bowel is difficult and its evaluation is indicated for those patients in whom an upper gastrointestinal endoscopy and colonoscopy are negative, if hemodynamically stable, may be performed through different types of enteroscopy. Push enteroscopy with pediatric colonoscope is probably the most widely available endoscopic method of examining the small bowel. The technique is difficult and only the proximal 60cm of small bowel can be examined. A double balloon enteroscope was introduced in 2001 and has the capability to examine the entire small bowel.<sup>(9)</sup> Intra-operative enteroscopy with per-oral intubation passage through the small bowel guided by surgeon is still considered the gold standard of examination of the small bowel for bleeding. Another new, highly technical tool is capsule enteroscopy.<sup>(10)</sup> It is superior to small bowel radiographs<sup>(11)</sup> and probably also to push enteroscopy. While probably being the most effective diagnostic modality for obscure lower gastrointestinal bleeding, capsule endoscopy is likely to be unavailable outside of the most advanced centers.

**Patients and method:-**This is a prospective study done in the Gastroenterology center in AL-sader teaching hospital in Al-najaf city during the period from May 2008 to April 2011. The patients selected for this study according to the following criteria:

1-Patients presented with bleeding per rectum.

2-Patients have no previous history of colorectal cancer or irritable bowel disease or previous known colorectal disease.

3- Patients have no family history of familial adenomatous polyposis (FAP) or hereditary non polyposis colorectal carcinoma (HNPCC). The patients who are not fully prepared or developed severe pain during the procedure excluded from the study. The study include 332 patients presented with bleeding per rectum were referred to the endoscopic unit.

History was taken prior to the procedure including age, gender, chief complain, previous history of colonic disease, family history of colonic disease, smoking and dietary habit. Physical examination prior to colonoscopy includes abdominal examination and per rectal examination and anoscopy to diagnose any perianal pathology. In cases of bright red rectal bleeding and shock, nasogastric tube was placed to exclude upper gastrointestinal cause of bleeding. The presence of blood or clear bile stained fluid, are helpful indicators, while the lack of blood does not rule out an upper gastrointestinal source of bleeding so upper esophagogastroduodenoscopy (EGD) were done to exclude this. Once an upper gastrointestinal source of bleeding is excluded and the patient is hemodynamically stable, colonoscopy were done to define the cause of lower gastrointestinal bleeding. However all the patients, even those with perianal pathology, finally subjected to colonoscopic examination to exclude proximal colorectal cause for the bleeding. The study include 290 patients who were colonoscoped as outpatient, because they were hemodynamically stable so standard care colonoscopy performed while 61 patients were colonoscoped as inpatient, as they presented as severe rectal bleeding with hemodynamic instability so they were resuscitated then

urgent colonoscopy carried out. For proper evaluation of the colorectal mucosa thorough bowel preparations include the followings:

1-Patients were instructed to keep on soft diet for 2-3 days before the procedure.

2-Caster oil was administered in the evening preceding the procedure.

3-Thorough enema was done in the evening of the procedure.

The patients were examined in the left lateral position with standard colonoscope(Olympus), sedation in the form of 10 mg iv diazepam were needed for 15 patients with anxiety, some patients need pethedine 50-100 im injection then the area were lubricated with lidocine ointment. Digital rectal examination were done, any perianal pathology were recorded. The tip of colonoscopy were lubricated with lidocine jelly and guided into the rectum under tip of right index finger. Sigmoid colon was difficult to be intubated because it is redundant and sharply angulated so passage through this section is accomplished by application of clockwise torque on the instrument and simultaneous with alternating pushing and pulling motion. The grossly abnormal colonoscopic findings were recorded. Abnormal area of colorectal mucosa was identified and biopsies were taken and put in formalin solution and sent for histopathological examinations in the laboratory of AL-Sader hospital.

**Results:-** During the study period,332 patients presented with bleeding per rectum underwent colonoscopy. The study shows that 203(61.15%) patients were male and 129 (38.85%) were female. Patient's age ranged from 5-70 years (mean of age 37.5 years). Complete colonoscopy to cecum was successful in 311 (93.67%) patients while in 21 (6.33%) patients the examination was incomplete due to poor bowel preparation in 8 patients, obstructive lesion in 5 patients, poor pain tolerance in 7 patients and acute kink in the bowel loop in one patient. The mean length of examination for incomplete examination was 35 cm. No complications were recorded during and after the procedure. The study showed that lower gastrointestinal bleeding more common in male than female, and the age between 21-40 years is the most common age group that is affected. As shown in table (1) which revealed that 158(47.6%) patients with bleeding in this age group. Colonoscopic examination revealed that 88 (26.51%) patients have normal colonoscopy (negative finding),as shown in table(2) which revealed that 31(9.34%) patients, who presented as rectal bleeding with normal colonoscopy, found to have upper gastrointestinal cause of bleeding that is diagnosed by nasogastric tube placement or esophagogastroduodenoscopy (EGD).However in 57(17.17%)patients no cause were found. The study show that 244 (73.49%) patients have abnormal colonoscopic finding (positive finding), as shown in table (3) which revealed that hemorrhoid,proctocolitis,colorectal polyp, colorectal tumor mass and ulcer are the most common gross colonoscopic findings in order of frequency while diverticular disease is rare cause of bleeding as only 3 (0.9%) patients were diagnosed in this study . Histopathological examination of those patients shown in table (4) which revealed that chronic non specific colitis is the most common type of proctocolitis causing lower gastrointestinal bleeding. Also table (4) show that juvenile polyp is the most common histopathological type of colorectal polyps, while neoplastic (adenomatous) polyps were present in 8 patients, of them 2 patients were Familial adenomatous polyposis (FAP). Colonoscopic removal of these polyps was successful in 37 patients. However histopathological evaluation of colorectal polyps did not show malignant changes. Also the study showed that 31(9.34%) patients found to have colorectal tumor mass and 26 (7.83%) patients were found to have colonic or rectal ulcer on colonoscopic

examination. Histopathological examinations of these colorectal tumors mass reveal adenocarcinoma in all with different grade of differentiation while histopathological examination of colorectal ulcer shows that 6 (23%) patients have solitary rectal ulcer and 20 (77%) patients diagnosed as colorectal adenocarcinoma with different grade of differentiation. The study reveals that 73 (21.99%) patients with lower gastrointestinal bleeding were diagnosed to have only hemorrhoid which is the source of bleeding while 10(3.01%) patients have only anal fissure causing bleeding. However what is significant finding in this study that 41(12.35%) patients with different pathologies causing lower gastrointestinal bleeding were presented firstly with hemorrhoid. The study report that malignant neoplastic disease are a cause of rectal bleeding in 51(15.36%) patients which presented grossly on the colonoscopic examinations as colorectal tumor mass in 31 patients and colorectal ulcer in 20 patients, as shown in table (3) and table (4) .The study revealed that 238(97.54%) patients out of 244 patients with lower intestinal bleeding have left sided pathology while only 6(2.46%) patients presented with right sided lesions on colonoscopy, as shown in table (5) which show the site of colorectal pathology.

**Table (1): show the distribution of the age of the patients.**

Age group	Number of patients(%)
1-10 years	6(1.81%)
11-20 years	28(8.43%)
21-30 years	81(24.4%)
31-40years	77(23.2%)
41-50years	45(13.6%)
51-60years	65(19.6%)
61-70years	30(9.04%)
Total.	332

**Table (2): show the cause of bleeding in patients with normal (negative) colonoscopic finding.**

Gross colonoscopic finding	Number of patients (%)	Age range	Male No.(%)	Female No.(%)
Upper GIT bleeding	31(9.34%)	30-40	19(5.72%)	12(3.62%)
No cause found	57(17.17%)	5-70	29(8.74%)	28(8.43%)
Total.	88(26.51%)	5-70	48(14.46%)	40(12.05%)

**Table (3): show the cause of bleeding in patients with abnormal (positive) colonoscopic finding.**

<b>Gross colonoscopic finding</b>	<b>Number of patients (%)</b>	<b>Age range</b>	<b>Male No. (%)</b>	<b>Female No.(%)</b>
Hemorrhoids	73(21.99%)	20-45	45(13.55%)	28(8.44%)
Proctocolitis	62(18.68%)	22-56 15-56	41(12.35%)	21(6.33%)
Colorectal polyp	39(11.75%)	6-45	26(7.83%)	13(3.92%)
Colorectal tumor mass	31(9.34%)	40-65	19(5.72%)	12(3.62%)
Colorectal ulcer	26(7.83%)	30-70	18(5.42%)	8(2.41%)
Anal Fissures	10(3.01%)	20-45	3(0.9)	7(2.11%)
Diverticular disease	3(0.9%)	54-62 45-62	3(0.9%)	0
Total.	244(73.49%)	6-70	155(46.69)	89(26.80%)

**Table (4): shows the histopathological results of colorectal lesion.**

<b>Histopathological finding</b>	<b>Histological subtype</b>	<b>Number of patients (%)</b>
Proctocolitis	Total	62(18.68%)
	Chronic non-specific colitis	41(12.35%)
	Other form of colitis	21(6.33%)
Adenocarcinoma	Total	51(15.36%)
	Ulcerative type	20(6.02%)
	Cauliflower type	31(9.34%)
Colorectal polyp	Total	39(11.75%)
	Juvenile polyp	21(6.33%)
	Hypertrophic polyp	6(1.81%)
	Hamartomatous polyp	4(1.20%)
	Adenomatous polyp	8(2.41%)
Solitary rectal ulcer		6(1.81%)
Diverticular disease	Diverticulitis	3(0.9%)
Undiagnosed		57(17.17%)
Total		244(73.49%)

**Table (5): show the site of colorectal pathology.**

colonoscopic finding	ano-rectum	Sigmoid o-rectal jun.	Sigmoid colon	Descending colon	Transverse colon	Ascending colon	Cecum	total
Proctocolitis	35	2	23	1	1	-	-	62
Colorectal tumor mass	10	4	11	3	1	1	1	31
Colorectal polyp	22	1	12	2	1	1	0	39
Colorectal ulcer	14	1	9	2	0	0	0	26
Diverticular disease	0	0	3	0	0	0	0	3
Hemorrhoids	73	-	-	-	-	-	-	73
Anal Fissures	10	-	-	-	-	-	-	10
Total.	164(67.21 %)	8(3.28%)	58(23.77 %)	8(3.28%)	3(1.23%)	2(0.82%)	1(0.41 %)	244

**Discussion:**

Lower gastrointestinal bleeding is present in four clinical conditions, (occult bleeding, melena, hematochezia and acute severe bleeding). Each of these conditions has different aetiology and requires different approaches to diagnosis. Despite technological advances, acute lower gastrointestinal bleeding remains a diagnostic and therapeutic challenge for the acute care surgeon and is a significant cause of morbidity and mortality particularly in elderly patients. Lower endoscopic evaluation is established as the diagnostic procedure of choice in the setting of acute lower gastrointestinal bleeding. The study showed that lower gastrointestinal bleeding is more common in male than female and this is similar to what is reported. However the study reported that 21-40 years is the most common age that is affected and this finding not comparable to other studies which reported that the incidence of lower intestinal bleeding increases significantly with age (200 per 100,000 by age 80 years)<sup>(12)</sup> and it could be more common than upper gastrointestinal bleeding in the elderly.<sup>(13)</sup> This may be explained by the fact that there is increasing prevalence of colonic diverticulosis and angiodysplasia with age in western countries while our country show low incidence and prevalence of colonic diverticulosis and angiodysplasia. The study report only 3 patients (0.9%) have colonic diverticular diseases which are responsible for lower gastrointestinal bleeding. This low incidence might be explained by dietary habit in our community. The study did not record any complications due to colonoscopy and this is comparable to the previous studies which showed that colonoscopy with endoscopic therapy for lower gastrointestinal bleeding appears to be safe. In a 1998 review of 13 studies (1561 patients), the overall complication rate was 1.3%.<sup>(14)</sup> The study showed that upper gastrointestinal bleeding is a cause for rectal bleeding in 31 (9.34%) and this is comparable to other studies which report that the cause of a lower gastrointestinal bleeding is an upper gastrointestinal source in 10-20% of cases.<sup>(15)</sup> However the study revealed that lower gastrointestinal bleeding is associated with normal endoscopic examinations in 57(17.17%) patients, this finding reported in other studies which found

that 1-25% of lower gastrointestinal bleeding of unknown cause.<sup>(16)</sup> In another study 18% of lower gastrointestinal bleeding remain undiagnosed (a significant percentage of these have a small bowel source).<sup>(17)</sup> The diagnostic yield of colonoscopy in this study is 73.49% and this is comparable the result of other studies which found that colonoscopy is able to identify a source of bleeding in 74% to 97% of patients with lower gastrointestinal bleeding.<sup>(18)</sup> Colonoscopic and histopathological evaluation of rectal bleeding in the study reported that hemorrhoid, proctocolitis, colorectal adenocarcinoma and colorectal polyp are the most common causes of lower gastrointestinal bleeding, while diverticular disease was rare and only recorded in 3 patients. This result not comparable to the result of other studies which showed that the most common causes of lower gastrointestinal bleeding are diverticulosis, hemorrhoid, ischemic colitis, and angiodysplasia. The results of 5 studies including 900 patients, Lingenfelter reports that 33% of cases of lower gastrointestinal bleeding due to diverticulosis, 18% to various forms of colitis (including ischemia), 11% to neoplasia, 6% to angiodysplasia, 6% to benign rectal lesions, 9% to miscellaneous (including postpolypectomy bleeds). Other reports show variability on these themes.<sup>(19)</sup> These differences in the causes of lower gastrointestinal bleeding may be explained as the diverticular disease is generally rare in our country in comparison to the western countries. However this study showed that proctocolitis was the cause of bleeding in 18.68% and this result comparable to the result of other studies which report that 18% of cases of lower gastrointestinal due to various forms of colitis (including ischemic colitis). It is reported that the relative frequency of diagnoses changes with age as well as geographical location. In adults younger than 60 years diverticulosis, colitis and neoplasia are the most frequent. Over 60 years, angiodysplasia, diverticulosis and neoplasia predominate.<sup>(6)</sup> The study did not record any case of angiodysplasia as a cause of lower gastrointestinal bleeding because this lesion most commonly located in the cecum and ascending colon in 54% and this is difficult to be detected by colonoscopy.<sup>(20)</sup> In general, small bowel sources of lower gastrointestinal bleeding are more common in younger patients. Meckel's diverticulum, inflammatory bowel disease including Crohn's disease and polyps predominate here. In his study of small bowel hemorrhage, Lewis considers vascular lesions to be the most common followed by tumors.<sup>(7)</sup> However, small bowel tumors are rare.<sup>(8)</sup> The study revealed that left sided pathological lesions much more common than right sided lesions, this finding comparable to the results of other studies. Church colonoscoped 115 patients with bright red rectal bleeding and found only one case of adenoma proximal to the splenic flexure.<sup>(21)</sup> Shinya et al reported that, in a series of 2200 patients, bright red rectal bleeding originated distal to the splenic flexure in 95% of patients.<sup>(22)</sup> Van rosendaal et al reported that 94% of polyps found in patients with bright red rectal bleeding were detected within 60 cm from the anal verge.<sup>(23)</sup> Cheung et al evaluated 330 patients with bright red rectal bleeding by flexible sigmoidoscopy and barium enema, cancer were found in 30 patients and 93% of them could be identified by flexible sigmoidoscopy.<sup>(24)</sup> In patients with bleeding per rectum it is very important to exclude an underlying neoplastic disease. In this study 51(15.36%) patients were diagnosed to have malignant disease causing lower gastrointestinal bleeding. According to the previous studies, the majority of neoplasm in patient presenting with bright rectal bleeding can be detected by flexible sigmoidoscopy. The study showed that hemorrhoid had accounted for 21.99% of cases with lower gastrointestinal bleeding while anorectal fissure accounted for 3.01%.

Previous studies that include anorectal source of bleeding showed that hemorrhoid accounted for 2% to 9% of acute severe hematochezia. <sup>(25)</sup> Hemorrhoid as a primary cause of lower gastrointestinal complaint should be considered cautiously because pile may be associated with other lesion <sup>(26)</sup>. It is reported that more than 30% of patients will have more than one potential source such as diverticulosis and hemorrhoids. <sup>(18)</sup> This is true and comparable to the result of this study which found that 41(12.35%) patients with different pathologies causing lower gastrointestinal bleeding were presented firstly with hemorrhoid. Therefore it is important to know that lower gastrointestinal symptoms in suspicious age group should be considered seriously even if loco-regional examination showed perianal pathology because coincidental finding may be encountered at the same time.

**Conclusion:-**

- 1-Colonoscopy is safe procedure and has a high diagnostic yield, which is about 73.49% ,in evaluation of lower gastrointestinal bleeding.
- 2-The most common causes of bleeding per rectum in colonoscopic and histopathological examination is hemorrhoid, proctocolitis, colorectal adenocarcinoma and colorectal polyp.
- 3- The age is important factor to predict the aetiology of lower gastrointestinal bleeding.
- 4-anorectal pathology should raise the suspicion of proximal pathology rather than considering it as the source of bleeding.
- 5-left sided lesions are the source of the lower gastrointestinal bleeding in the majority.

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