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LOWER GASRTOINTESTINAL BLEEDING;
ETIOLOGIC SPECTRUM IN NISHTAR HOSPITAL MULTAN

Dr. Zahra Nazish[1], Prof. Dr. Muhammad Inayatullah[2], Dr. Muhammad Younus Khan[3]

1. FCPS
Associate Professor of Medicine
Nishtar Medical College and Hospital, Multan
2. FRCP
Professor of Medicine
Nishtar Medical College and Hospital, Multan
3. FCPS
Senior Registrar Surgery
Bahawalpur Victoria Hospital
Bahawalpur

Correspondence Address:
Dr. Zahra Nazish, FCPS
Associate Professor of Medicine
Nishtar Medical College and Hospital, Multan
zahranazish@gmail.com

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ABSTRACT… Objectives: To determine the etiology of lower GI bleeding based on colonoscopic findings **Study design:** Retrospective study. **Place and Duration of study:** This study was conducted at gastroenterology unit of Nishtar Hospital Multan from Feb 2013 to August 2014. **Patients and methods:** Two hundred and fifty four patients, ≥ 14 years old who presented with history of lower GI bleeding to the gastroenterology unit of Nishtar Hospital Multan **Results:** Out of 254 patients, 59.05% were males and 40.95% were females. Mean age of patients was 37.22±10.68 years. Most common findings were haemorrhoids (40.9% cases), ulcerative colitis(35.4%), no abnormality (8.2%), solitary rectal ulcer (7.5%), growth (7.1%), proctitis (3.5%), polyps(2%), rectal varix (1.2%), infective colitis (0.8%), uremic colopathy (0.8%), rectal prolapse (0.8%), multiple polyposis coli (0.8%), petechiae (0.8%), stricture (0.8%), diverticula(0.4%)and fissure (0.4%). **Conclusion:** Colonoscopy is the investigation of choice for patients of lower gastrointestinal bleeding. More common colonoscopic findings in our study were haemorrhoids, ulcerative colitis, solitary rectal ulcer, malignancy and proctitis. Polyps and diverticula which are common in the west were uncommon in our patients. Rectal prolapse, petechiae, stricture, uremic colopathy and multiple polyposis coli were rare causes.

Key words: Lower gastrointestinal bleeding. Causes. Colonoscopy.

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INTRODUCTION

Lower gastrointestinal bleeding is a frequent cause of hospital admission as well as presentation in medical and surgical outpatient departments. It is approximately one-fifth as common as upper gastrointestinal bleeding and accounts for approximately 20 to 30 hospitalizations per 100,000 adults per year.[1] It is associated with significant morbidity and mortality particularly in elderly people.[2] It is a very important indication for lower gastrointestinal endoscopy.

Lower gastrointestinal bleeding has been tradionally defined as a bleeding that originates beyond the ligament of Treitz.[3] It can be overt or occult. Overt bleeding can manifest as fresh rectal bleeding or hematochezia. Patient can present with acute life threatening event or chronic bleeding.[4] Its causes can be classified into anatomical causes like diverticulosis, vascular like angiodysplasias, neoplastic like cancers and polyps and inflammatory causes like infections, radiation and inflammatory bowel disease. Its causes vary in different parts of the world.[5] Polyps and diverticulosis are common causes of lower gastrointestinal bleeding in the western population while haemorrhoids and inflammatory bowel disease are more common in the east.

Multiple diagnostic tests are available including colonoscopy, nuclear bleeding scans, angiography and multidetector computed tomography scanning.[6] But colonoscopy provides the best opportunity for early diagnosis and also provides best method of controlling bleeding.[7] It is therefore accepted as a procedure of choice.

The purpose of our study was to see the etiology of lower gastrointestinal bleeding in Nishtar Hospital Multan as found on colonoscopy.

Study design:
It was a retrospective study.

MATERIALS AND METHODS

Two hundred and fifty four patients of ages 14 years and above who presented with lower gastrointestinal bleeding and referred to gastroenterology unit of Nishtar Hospital Multan from medical/surgical outdoors and wards from February 2013 to August 2014were included in the study. Consent was taken from hospital ethical committee. After taking history and doing relevant physical examination, all patients underwent flexible sigmoidoscopy or colonoscopy in the gastroenterology unit of Nishtar Hospital Multan. Patients were prepared for colonoscopy by taking clear liquid diet two days prior to the test, six tablets of dulcolax at night and kleen enema on the night before and twice in the morning before examination. Premedication was done with midazolam or nalbuphine and metoclopramide. It was made sure that all patients were hemodynamically stable. Olympus video colonoscope of type 160 was used for colonoscopy. Endoscopic findings were recorded in a proforma. Biopsies were taken where indicated and sent to laboratory for histopathological examination.

Data was analysed using SPSS version 20. Colonoscopic findings were analysed for their frequencies and percentages. Mean ± SD was calculated for age. Pie charts (Figure 1, 2 and 3) were made to show male to female ratio and normal and abnormal findings.

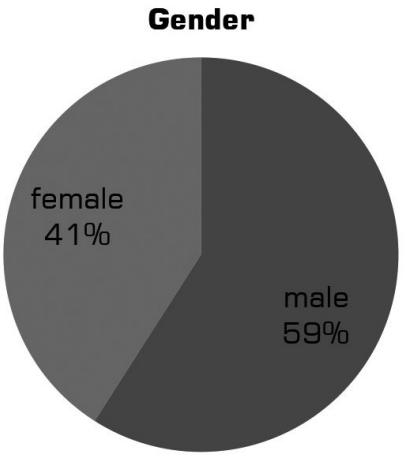

Figure-1

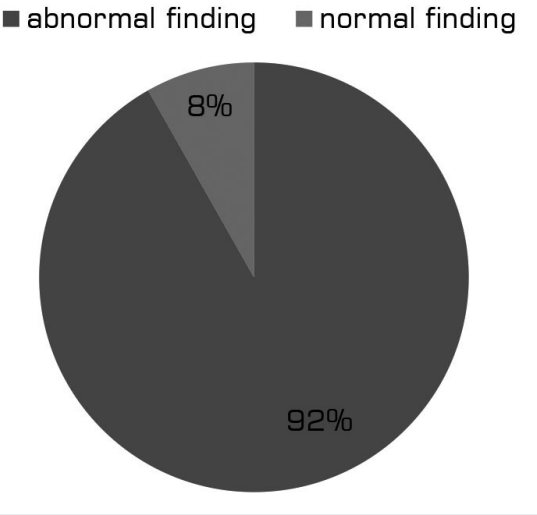

Figure-2

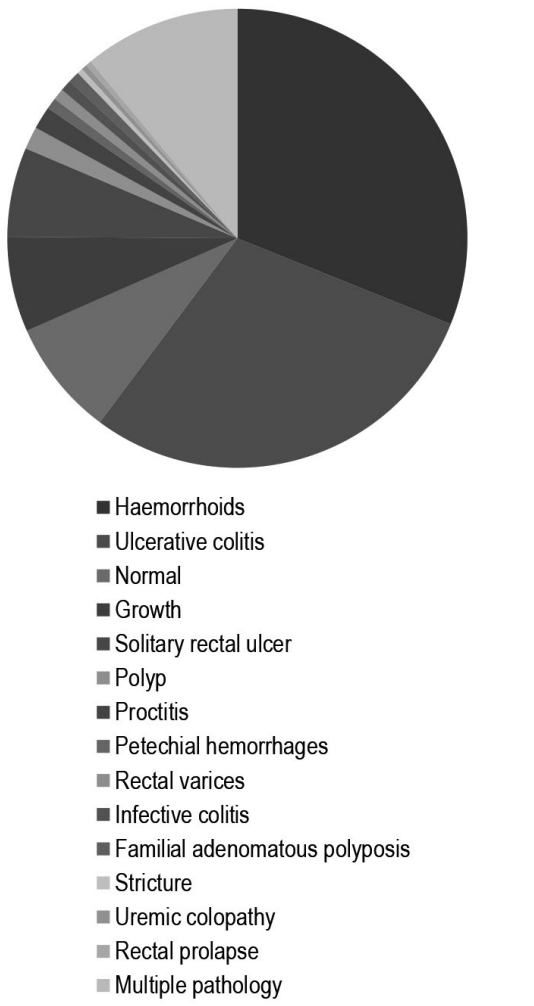

Figure-3

RESULTS

Out of 254 patients, 150 (59.05%) were males and 104 (40.95%) were females. Male to female ratio was 1.4:1. Their ages ranged from 14 to 75 years with a mean age of 37.22±10.68 years. Frequencies of differentcolonoscopic findings were as shown in Table I-III. Most common findings were haemorrhoids in 104(40.9%) cases, ulcerative colitis 90(35.4%), no abnormality 21(8.2%),solitary rectal ulcer 19 (7.5%), growth 18(7.1%) proctitis 9(3.5%),polyp 5(2%), rectal varix3(1.2%), infective colitis 2(0.8), uremic colopathy 2(0.8%), rectal prolapse 2(0.8%), multiple polyposis coli 2(0.8%), petechiae 2(0.8%), stricture 2(0.8%),diverticula 1(0.4%)and fissure 1(0.4%).

	Frequency	Percentage (%)
Haemorrhoids	79	31.1
Ulcerative colitis	74	29.1
Normal	21	8.2
Growth	17	6.7
Solitary rectal ulcer	16	6.3
Polyp	04	1.6
Proctitis	04	1.6
Petechial haemorrhages	02	0.8
Rectal varices	02	0.8
Infective colitis	02	0.8
Multiple polyposis coli	02	0.8
Stricture	01	0.4
Uremic colopathy	01	0.4
Rectal prolapse	01	0.4
Multiple pathology	28	11.0
Total	254	100.0

Table-I. Colonoscopic findings of Lower Gastrointestinal Bleeding

Colonoscopic finding	No of patients
Haemorrhoids +Ulcerative colitis	13
Haemorrhoids +Proctitis	5
Haemorrhoids + Solitary rectal ulcer	3
Prolapse + Ulcerative colitis	1
Ulcerative colitis + Diverticula	1
Haemorrhoids + Polyp	1
Haemorrhoids + Rectal varix	1
Haemorrhoids + Stricture	1
Haemorrhoids + Fissure + Uremic colopathy	1
Growth + Ulcerative colitis	1
Total	28

Table-II. Multiple pathology (N=28)

Cause	Frequency	Percentage
Haemorrhoids	104	40.9
Ulcerative colitis	90	35.4
Normal	21	8.2
Solitary rectal ulcers	19	7.5
Growth	18	7.1
Proctitis	9	3.5
Polyp	5	2.0
Rectal varix	3	1.2
Infective colitis	2	0.8
Uremic Colopathy	2	0.8
Rectal prolapse	2	0.8
Multiple polyposis coli	2	0.8
Petechiae	2	0.8
Stricture	2	0.8
Diverticula	1	0.4
Fissure	1	0.4

Table-III. Overall frequency of causes of lower GI bleed including the multiple pathology cases (N=254)

GI: Gastrointestinal

DISCUSSION

Lower gastrointestinal bleeding is an alarming symptom which cannot be ignored by the patients and often forces them to seek medical advice. On one hand it can be the result of a minor pathology like haemorrhoids and on the other hand the underlying cause can be a serious disorder like colorectal cancer or a chronic condition requiring long term treatment like inflammatory bowel disease. Proctosigmoidoscopy or full colonoscopy is an important and useful investigation with a very high diagnostic value for lower gastrointestinal bleeding.[8] In most of the cases we can make a spot diagnosis and start immediate treatment.

Many studies have been done in the past in all parts of the world to find the frequency ofvarious etiologies of lower gastrointestinal bleeding based on colonoscopic findings. This study was performed to see etiologyof lower gastrointestinal bleedingin our set up.

In our study mean age of presentation was 37.22±10.68years. This is close to the mean age

of 38±16and 41.04±15.08 found by Manzoor et al and Zia et al respectively.[9,10] While on the other hand western studies showed that lower gastrointestinal bleeding was more common in older age as Jensen et al and Chaudhery et al found that mean ages of patients in their studieswere 64.5years and 75 years respectively.[11,12] This difference in age is probably due to difference in etiologies prevalent in the two parts of world.

Our study showed male preponderance as 59.05% patients were males and 40.95% were females. Similarly Fernandez et al found that 54.5% patients were males and 45.5% females.[13] While Zia and Bhattiet al found significant male preponderance (74% and 61.9% patientswere males respectively).[10,14] On the other hand Manzoor et alfound that lower gastrointestinal bleeding was more common in females(45% patients were males and 55% females).[9] Sanchezet al found that male to female ratio was 1:1.[15] So we can say that lower gastrointestinal bleeding has no association with any particular gender.

Out of 254 cases no pathology was observed in 8.2% casesand diagnostic yield of colonoscopy in our study was 91.8%. While Zia et al observed abnormal findings in 82% cases.[10] A study was done in our hospital about 24 years ago by Nasir etal which showed that diagnostic yield was very low as no abnormality was found in 68.2% cases.[16] It was because at that time fibreoptic colonoscope was used. Chaudery et al reportedthat the source of bleeding could be correctly identified in 97% cases.[12]

In our study we observed that the most common cause of lower GI bleeding was haemorrhoids found in 40.9% cases.Manzoor et al also found that most common cause of lower gastrointestinal bleeding was haemorrhoids and even a higher percentage of 58% was observed.[9] Bhatti et al found 22.8% cases of hemorrhoids.[14] Makela found it in 28% cases and Gayer et al observed 22.5% cases.[17,18] This indicates that haemorrhoids are a common cause of lower GI bleedingnot only in our country but also inthe west.

Next common cause of lower GI bleeding found in our study was ulcerative colitis (35.4% cases). Zia et al found ulcerative colitis in 48% cases.[10] Nasir et al observed that ulcerative colitis was the most frequent colonoscopic finding (11.8%).[16] While Manzoor et al found it in only 1% cases.[9] An Indian study by Goenkaet al found ulcerative colitis in 19.3% cases.[19] A Spanish study by Fernandez et al observed inflammatory bowel disease in 9.4 % cases.[13]We did not find any case with classical findings of Crohn's disease which is more common in the west. Pardi et al found that out of patients of inflammatory bowel disease who presented with lower gastrointestinal bleed 90% were diagnosed as Crohn's disease and 10% as ulcerative colitis.[20]

Third commonest cause in our study was solitary rectal ulcer, found in 7.5% cases. Similarly Goenkaet al found it in 7.8% cases.[19]But it was found less frequently in other studies. Manzoor et al found it in only 1% cases.[9] Zia et al found it in 4% cases.10 This term is a misnomer as sometimes multiple ulcers can be present. It is uncommon inthe west as reported by Mathew et al.[21] Sanchezet al found it in 2.7% cases.[15]

Next common cause we observed was growth found in 7.1% cases. Nasir et al found it in 6.9% cases.[16] Manzoor et al found 8%, Zia et al 10% and Bhatti et al 11.1% cases of malignant growth.[9,10,14] Indian studies by Goenkaand Bhargavaet al found colonic cancer in 7.2 and 10% cases respectively.[19,22] Fernandez et aland Gayer et al found it in 12.6 and 12.7% cases respectively.[13,18] These figures indicate that colorectal cancer is also increasing in the eastern countries approaching western figures. This is perhaps due to increased intake of western style diet.

Proctitis was found in 3.5% cases in our study. Fernandez et al found it in 2.4% cases and Bhattiet al found it in 6.5% cases.[13,14] While Ziaet al found it in 12% cases.[10] So we can say that proctitis has variable frequency in different studies even in our own country. It can be caused by infection as well as inflammatory bowel disease.

Polyps were found in 2% cases.Ziaet al also found it in 2% cases.[10]Nasir et al found it in 2.7% cases.[16] Surprisingly Bhatti et al[14] found a very high percentage of polyps (17%) even more frequent than a western study by Makelaet al who found it in 11 % cases.[17] Fernandez found it in 25.1% cases.[13]So overall we can say that polyps are less common in Pakistan.

We found rectal varicesin 1.2% cases which is a rare cause of lower gastrointestinal bleeding. All these patients were diagnosed cases of cirrhosis of liver. Incidence of bleeding from rectal varices has been reported to be 1-8% in different studies.[23]Bhargava found rectal varices in 4 % cases.[22]

In our study infective colitis was found in 0.8%almost similar to a western study by Fernandez et al who found it in 1.1% cases.[13]But 24 years ago Nasir et al found amebic colitis, one common type of infective colitis in our country, in 6.9% cases.[16] This decrease in the frequency of infection as a cause of lower gastrointestinal bleeding as compared to the study done 24 years ago is because of improvement in hygienic conditions and early diagnosis, treatment and availability of better antibiotics. Over all infective colitis is a rare cause of lower GI bleeding and it has not been reported in many western studies.

Multiple polyposis coliwere found in 0.8% cases. Ziaet al found it in 2% cases.[10]None of the above mentioned western studies reported it as a cause of lower GI bleeding.

Rectal prolapse was also found in 0.8% cases in our study while Manzooret al found it in 2.5% cases.[9]

We found stricture in two cases (0.8%). In both cases over lying mucosa was friable and ulcerated. Common causes of stricture in colon are tuberculosis, crohn's disease and malignancy.

Other pathologies found were uremic colopathy and petechiae (0.8% each). None of the studies mentioned above have reported them. One of the patients with petechiaegave history of intake of high dose aspirin for Rheumatic fever.

We found diverticula in only one patient (0.4%) coexistent with findings of ulcerative colitis. Latter was more like to be responsible for causing bleeding and diverticula seemed to be an incidental finding. Similar to our result Manzooret al also found diverticula in 0.5% cases.[9] But Zia et al found them more frequently (7% cases).[10] On the contrary diverticula are the most common cause of lower gastrointestinal bleeding in the western studies. Gayer et al found them in 33.5% cases,[18] Ghassemi 30% cases[24], Fernandez 24% cases[13] and Makelaet al observedit in 19% cases.[17] As diverticula are more common in older age, patients of lower gastrointestinal bleed are older in western population.

Fissure was found in 0.4%cases unlike Manzoor et al who found it in 27% cases as their study was done in surgical department.[9] Tadeet al found it in 3.7% cases.[25]

CONCLUSION

Flexible colonoscopy has a very important role in the diagnosis of lower GI bleeding. Videoscopes have increased the diagnostic yield to a great extent. Haemorrhoids were the most common cause followed by ulcerative colitis, solitary rectal ulcer, malignancy and proctitis in our study. Etiology of lower GI bleeding in our set up is different from that in the western population in the sense that polyps and diverticula which are common causes in the west but uncommon in our study. Our study reported some rare causes of lower GI bleeding like petechiae, rectal varices, rectal prolapse, uremic colopathy and stricture.

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"Education is the most powerful weapon which you can use to change the world."

Nelson Mandela

AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Dr. Zahra Nazish	Topic selection, study deisgn, collection, interpretation and analysis of data, writing paper and final approval	
2	Prof. Dr. M. Inayatullah	Contribution in paper writing, interpretation of data, approval of final paper for publication	
3	Dr. M. Younus Khan	Contribution in topic selection, interpretation of data, participated in review, drafting and final approval	