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Common Causes of Gastrointestinal Bleeding Diagnosed by Endoscopy/Colonoscopy at Hospital Sultanah Bahiyah, Alor Setar, Malaysia

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Abstract: *Acute gastro-intestinal bleeding is potentially a life-threatening abdominal emergency and has been a common cause of hospitalization.1*
It is always fascinating as well as informative to know the various causes of upper and lower gastro-intestinal bleeding prevalent in a particular region. It helps us in early diagnosis and prompt management of the case in thatarea.
Keeping this in mind we started a project to see the common causes of gastro-intestinal bleeding as confirmed by direct endoscopy methods in patients admitted in Hospital Sultanah Bahiyah, Alor Setar, Malaysia between June,2012 to November,2012.
Key Words*: Gastrointestinal bleeding, Endoscopy, Colonoscopy, Bleeding sites.*
Abbreviations used*-- HSB Hospital Sultanah Bahiyah, Alor Setar, Kedah, Malaysia; LGIB Lower gastro-intestinal bleeding; UGIB Upper gastro-intestinal bleeding; OGDS Oesophago-Gastro-Duodenoscopy.*

I. Introduction

Patients with acute UGIB commonly present with hematemesis (vomiting of blood or coffee-ground like material) and/or melena (black, tarry stools). The initial evaluation of patients with acute UGIB involves an assessment of hemodynamic stability and resuscitation if necessary. Diagnostic studies (usually endoscopy) follow, with the goal of both diagnosis, and when possible, treatment of the specific disorder. 2Presence of frankly bloody emesis suggests moderate to severe bleeding, while coffee ground emesis suggests limited bleeding.3

INITIAL EVALUATION

The comprehensive history and proper physical examination of the patient provide crucial clue to the exact cause of gastro-intestinal bleeding. In UGIB the main complain is usually hematemesis followed by melena or hematochezia. Endoscopy does not reveal a cause of UGIB in some 20% of cases.4But, capsule endoscopy has reduced this figure to merely 5%. 5

Haemorrhage from the lower g.i. tract accounts for about 20% of all cases of acute g.i. bleeding.6 In the present study we have taken LGIB as the acute or chronic loss of blood from a source in the colon or ano-rectal region. Clinically LGIB may be subdivided into overt (melena/haematochezia) and concealed (occult bleeding).

The diagnostic reliability of urgent colonoscopy in acute LGIB is 89 to 97%.7As per current recommendation thorough cleansing of the colon should be done before colonoscopy in cases of acute LGIB. It facilitates better endoscopic visualization, improves diagnostic yield and reduces the chance of perforation during the procedure. During the procedure caecum should be reached, as a substantial number of LGIB occurs from right hemi-colon. In patients with hemodynamic instability an urgent angiography should be done instead of colonoscopy.8

Aims and objective

1. To find out the common causes of UGIB and LGIB diagnosed by endoscopy and colonoscopy respectively in the surgical department of HSB from June,2012 to November,2012.
2. To measure the frequency of the most common causes of UGIB and LGIB during the study period with special reference to age, race and sex distribution.

II. Methodology

This study was carried out in surgical department of HSBover the span of six months from June, 2012 to November, 2012. All patients admitted to the above department during the aforesaid period for endoscopy or colonoscopy due to upper or lower g.i. bleeding were analysed for this study. Patients from all over the Kedah state are being referred to this hospital routinely.
Total number of patients for our study was 409 for endoscopy and 128 cases for colonoscopy.

Inclusion Criteria

1. All patients over the age of 12 years.
2. Patients who were admitted in HSB during that period for endoscopy/colonoscopy due to gastro-intestinal bleeding.

Exclusion Criteria

1. Patients below 12 years old.
2. Patients who were not admitted for the procedure.

Ethical Consideration

All data were kept confidential and were used in the study only.

Statistical Analysis

Data analysis was carried out on the basis of history, physical examination, endoscopic and colonoscopic findings, which were recorded over the bed head ticket of the patient at the time of admission. Data were systematically tabulated to fit them into comparable form. Simple percentage was used to calculate the frequency distribution of personal traits of the patient, while graphical method was used to present different categories of data.

DISTRIBUTION OF PATIENTS WITH UGIB COMING FOR OGDS IN HOSPITAL SULTANAH BAHIYAH FROM JUNE- NOVEMBER 2012 ACCORDING TO RACE

Figure 1

RACE	Frequency	Percent
c	49	11.98%
i	39	9.54%
m	288	70.42%
others	33	8.07%
Total	409	100.00%

In this figure 1, we are seeing that altogether 409 patients were admitted in HSB during the aforesaid period for OGDS due to UGIB. Out of these 288 were Malays, 49 were Chinese, 39 were Indian and rest 33 were others.

DISTRIBUTION OF PATIENTS WITH UGIB COMING FOR OGDS IN HOSPITAL SULTANAH BAHIYAH ACCORDING TO GENDER

Figure 2

GENDER	Frequency	Percent
F	156	38.24%
M	252	61.76%
Total	408	100.00%

Figure 2 shows that out of 409 patient 252(61.76%) were male and 156(38.24%) were female, while gender of 1 patient could not be determined at the time of admission.

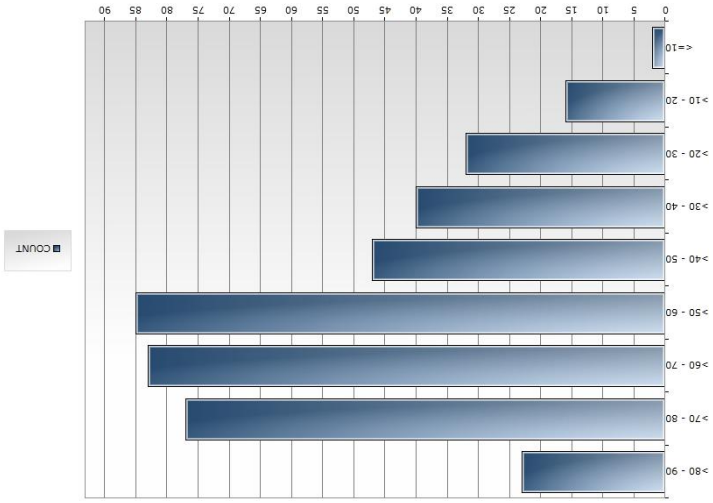

Figure 3

Age Graph

Figure 4

AGERANGE	Frequency	Percent
<=10	2	0.49%
>10 - 20	16	3.95%
>20 - 30	32	7.90%
>30 - 40	40	9.88%
>40 - 50	47	11.60%
>50 - 60	85	20.99%
>60 - 70	83	20.49%
>70 - 80	77	19.01%
>80 - 90	23	5.68%
Total	405	100.00%

Figure 3 and 4 give us the age-wise frequency of UGIB. Maximum number of patient belonged to the age group of 50 to 80.

COMMON CAUSES FOR UGIB DIAGNOSED BY OGDS IN HOSPITAL SULTANAH BAHIYAH FROM JUNE - NOVEMBER 2012.

DIAGNOSIS	Frequency	Percent	Cum. Percent	
Duodenitis	3	0.73%	0.73%	
ES	32	7.82%	8.56%	
Eso tumour	11	2.69%	11.25%	
Esophagitis	12	2.93%	14.18%	
EV	32	7.82%	22.00%	
Failed	6	1.47%	23.47%	
Gastric tumour	14	3.42%	26.89%	
Gastritis	26	6.36%	33.25%	
GERD	7	1.71%	34.96%	
HH	20	4.89%	39.85%	
N	54	13.20%	53.06%	
others	31	7.58%	60.64%	
PU	158	38.63%	99.27%	
Secondary tumour	3	0.73%	100.00%	
Total	409	100.00%	100.00%	

Figure 5

This figure is the soul of our project. Here we are finding that while endoscopy failed in 6 patient due to varied reasons, in 54 patient no abnormal finding was detected on endoscopy. Still, maximum percentage(38.63) of UGIB patient showed peptic ulcer (158 patient) as the cause of bleeding followed by esophageal varices.

III. Discussion on UGIB

From the results of our study, we were able to find the prevalence of pepticulcer disease according to gender, race and age in patient admitted in HSB.

In similar work done in UK, peptic ulcer was found to be the commonest cause of UGIB, followed by esophago-gastric varices. In another work done by Jaffrey A. Cutler et al found some 35.6% of patients of UGIB the cause was bleeding peptic ulcer.9

But, long back in 1968, Audis Bether found 'Mallory tears' to be the commonest cause of UGIB, followed by gastric tear (portal hypertension) and peptic ulcer.10

In 54 patients (13.20%) OGDS couldn't find any abnormality and in 6 patients (1.47%) endoscopy failed due to various reasons, eg. esophageal stricture, etc. In UK also a studyconducted on UGIB showed that in some 20% patients the cause couldn't be established by endoscopy.11

In our study, we obtained the cause of UGIB based on the endoscopic results. The symptoms that patient presented were hematemesis, malena, symptoms of blood loss or anaemia such as light headedness, syncope and dyspnea, dysphagia, epigastric pain and heartburn. A few endoscopy was done in emergency. However, most of the endoscopy was planned or scheduled.

The other common conditions of UGIB besides peptic ulcer and varices were gastritis (6.36%), hiatus hernia with ulcer (4.89%), gastric tumour (3.42%), esophagitis (2.93%), esophageal tumour (2.69%) and gastroesophageal reflux disease, GERD (1.47%).

Lower G.I. Bleeding

128 cases were studied to find out the most common cause of LGIB with the help of colonoscopy in HSB from June to November 2012.There were 68 male and 60 female patient. It shows that LGIB is almost equally common in
both male and female.

RACES DISTRIBUTION OF PATIENTS COMING FOR COLONOSCOPY

Figure 6

RACE	Frequency	Percent	Cum. Percent	
chinese	16	12.50%	12.50%	
indian	7	5.47%	17.97%	
malay	103	80.47%	98.44%	
siam	1	0.78%	99.22%	
singh	1	0.78%	100.00%	
Total	128	100.00%	100.00%	

As far as the race is concerned majority of the patients were Malay (80.47%,103 cases) followed by Chinese(12.50%,16 cases), Indian(5.47%, 7 cases) and others(1.56%,2 cases). This is probably due to the population distribution in Alor Setar, Kedah which is formed byMalay as majority races (76.6%), followed by Chinese(14.9%) and Indian(7.1%).

The result shows that LGIB is more common in elderly people and they should be treated with more care and concern.

Bleeding per rectum was the main symptom, and among the other symptoms, tenesmus, altered bowel habit, abdominal distention and mass formation werefound in patient with colorectal carcinoma, while abdominal pain, fever, mucous discharge, weakness were found in patient with non -specific colitis and ulcerative colitis. Digital rectal examination showed finger staining with blood in most of the cases and in some cases palpable lesion in rectum wasdetected.

COMMON CAUSES FOR LOWER GASTROINTESTINAL BLEEDING DIAGNOISED BY COLONOSCOPY IN HSB

PROVISIONAL DIAGNOSIS	Frequency	Percent	Cum. Percent	
diverticular disease	23	17.97%	17.97%	
failed	26	20.31%	38.28%	
hemorrhoid	7	5.47%	43.75%	
neoplasia	12	9.38%	53.13%	
normal	32	25.00%	78.13%	
others	9	7.03%	85.16%	
polyps	9	7.03%	92.19%	
ulcer	10	7.81%	100.00%	
Total	128	100.00%	100.00%	

IV. Result

Our study was mainly focussed on the common causes of LGIB diagnosed by colonoscopy in HSB. Most common cause of LGIB on colonoscopy was found to be diverticular disease(23 cases,17.98%).This was followed by neoplasm (12cases,9.38%), ulcer(10cases, 7.81%), polyps(9 cases,7.03%) , others (9 cases, 7.03%) and haemorrhoid (7 cases, 5.47%).

The result shows that 25% (32cases) of patients presented with LGIB was diagnosed normal by colonoscopy .This is because some findings of LGIB could not be diagnosed by colonoscopy.Other methods of investigation could have been done to find the cause. 12

Bleeding from colonic diverticula, which presents as acute, painless hematochezia, is arterial and can occur either at the dome or the neck of the diverticulum. The prevalence of colonic diverticula increases with age. Bleeding ceases spontaneously in about 80% of cases.

Neoplasm account for 9.38% (12 cases) of total patients presented with LGIB. Neoplasm was the second most common cause for LGIB based on colonoscopy investigation. Erosion and ulceration of the surface of tumor might bleed, and the bleeding might be exacerbated by NSAID. Carcinoma in the left colon particularly sigmoid colon,often leads to rectal bleeding early in the course of the disease. In the right colon, by contrast, carcinoma often presents as iron-deficiency anemia. Colonoscopy is the gold standard method of investigation for colon carcinoma. Colonoscopy is done to take a biopsy from growth and also to rule out synchronous malignancy seen in 5 % of the cases. If biopsy cannot be taken, as in obstruction, brush cytology can be taken.

There are 7.03% (9cases) of patients presented as other causes. The other causes include sodomy cases, colostomy cases, anastomoses at the anal verge and post- Hartmann procedures.

The most common cause of LGIB was diverticular diseases which accounted for 17.97% of the total number of patients. As our study was directed to patients over the age of 12 years old, patients with diverticular disease ranged between 30 and 80 years old. Most of the patients were in older age group i.e. above 50years old. The most common age group fall in the range between 50 – 60 years old.

Out of 23 cases of diverticular disease, 15 cases were male and 8 cases were female making a male to female ratio almost to 2:1. The results showed that male are at the higher risk of getting diverticular disease, especially male above the age of 50 years.

Malay contributed the highest prevalence in diverticular disease, which accounts for 19cases, followed by Chinese 2 cases and Indian 2 cases. The result does not really implicate any important finding because of the population distribution.

The second common cause of LGIB is colon carcinoma which accounts for 9.38% of the total number of patients. As our study was directed to patients above the age of 12 years old, patients with colon carcinoma ranged between 30 and 90 years old. Most of the patients were in older age group i.e. above 50years old. The most common age group fall in the range between 60-70 years old. This shows that population with advance age group have the higher risk of getting colon carcinoma.

Out of 12 cases of colon carcinoma, 3 cases were male and 9 cases were female making a male to female ratio of 1:3. The results shows that female are at the higher risk of getting colon carcinoma, especially female above the age of50 years.

Malay contributed the highest prevalence in colon carcinoma, which accounts for 7cases.

SUMMARY

In summary, for the UGIB study, it was based on a total number of 409 patients. The most patients with UGIB who came for OGDS during the study period were the Malay patients which made up 70.42% or 288 patients, followed by the Chinese race which made up 11.98% or 49 patients and the Indian race made up 9.54% or 39 patients.

In term of gender distribution, 252 patients or 61.76% were male patients and 38.24% or 156 patients were the females. Meanwhile, the distribution of patients with UGIB is most common in patients in the age group of 50-60 years (20.99% or 85 patients), while LGIB was found to be most common in 71 to 80 yrs. age group (34%).It is concluded that peptic ulcer disease (158 patients) is the most common cause of UGIB in this hospital, followed by oesophageal varices (32 patients) and oesophageal stricture (32 patients).

Peptic ulcer disease was common in the males (112 patients) compared to females (46 patients). It is common in Malay, followed by Chinese and Indian.

For esophageal varices, the Malay contributed 68.75%, followed by the Chinese (18.74%). This condition is more common in the male gender (84.38%) compared to the female gender (15.63%). The most number of patients who were diagnosed with esophageal varices belonged to the age group of 50-60 years (13 patients).

The prevalence of esophageal stricture was common among the Indian race (40.63%), followed by the other races, which contributed the second highest number of patients with 34.38 %. Esophageal stricture was more common in the females compared to the males. The most number of patients who are diagnosed with esophageal stricture belongs to the age group of 20-30 years (15 patients).

Bleeding per rectum is the most common symptom of many large gut disorder that need detailed clinical assessment. Colonoscopy is a good method in examination of large intestinal lesions. Most common cause of LGIB in our setup as diagnosed with colonoscopy was diverticular disease. Advance age group of population with male gender is at the higher risk of getting diverticular disease. Early diagnosis is important to save the patient's life.

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