

A STUDY ON UPPER GASTRO INTESTINAL ENDOSCOPIC FINDINGS IN PATIENTS ADMITTED WITH UPPER GASTRO INTESTINAL BLEEDING

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ABSTRACT

BACKGROUND

Endoscopy is key diagnostic tool for management of upper gastro intestinal bleeding. In addition it provides a unique therapeutic opportunity which has over years reduced the need for emergency surgery, but the impact on survival is less dramatic with the mortality from severe upper gastro intestinal bleeding remaining fairly constant.

MATERIALS AND METHODS

Hundred Patients who were giving definite history of vomiting of frank blood or coffee ground coloured vomit and or passed dark coloured stools were admitted during study period and were subjected to endoscopy to identify the aetiology.

RESULTS

In this study of 100 patients mean age of the patients was 48 years. Majority of them are males (82%) and Male to Female ratio was 4.5:1. The most common cause of UGIB was portal hypertension related variceal bleed seen in 28% of patients. Peptic ulcer related bleed was seen in 25% of patients. Mallory Weiss tear was seen in 15% of patients, Oesophagitis (12%) of patients, gastric erosions 7% of patients, duodenitis 6% of patients, GAVE accounted for 3% of patients, 2% of patients showing normal endoscopic findings, post EVL variceal bleed (1%) and carcinoma stomach accounted for 1% of cases.

CONCLUSION

In present study variceal bleed was the most common cause of UGIB, followed by peptic ulcer bleed and variceal bleed was most common cause for major UGI bleed.

KEYWORDS

Upper Gastro Intestinal Bleeding, Gastric Antral Vascular Ectasia, Endoscopic, Variceal Ligation.

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BACKGROUND

The extensive clinical spectrum of gastro intestinal bleeding may encompass many different scenario.

The reason for this diversity is bleeding can occur from multiple different lesions and many sites in the gastro intestinal tract.

Gastro intestinal bleeding is a common clinical problem requiring more than 300,000 hospitalization annual.

The overall incidence of acute upper gastrointestinal haemorrhage has been estimated to be 50-100 per 1,00,000 person per year, with an annual hospitalization rate of approximately 100 per 1,00,000 hospital admission.

Bleeding from upper gastrointestinal tract is approximately five times more common than bleeding from lower gastrointestinal tract.

Upper gastro intestinal bleeding account for up to 20,000 deaths annually over recent decades overall mortality of upper gastro intestinal bleeding remain stable but is still 6-14%.

Bleeding may be massive or trivial, obvious or hidden. Gastrointestinal bleeding occurs clinically in one or more of the following four ways-

1. Hematemesis (from the Upper IT)
2. Hematochezia (from the lower GIT)
3. Occult (unknown to the patient)
4. Obscure (from an unknown site in the GIT).

Historically, the most common cause of upper GI bleeding has been gastro duodenal ulcer disease, although other upper gastro intestinal tract mucosal lesion account for a substantial proportion of cases.

The most important in the management of upper gastrointestinal bleeding is to determine 1. Source of bleeding 2. Stop active bleeding 3. Treat underlying abnormality 4. Prevent recurrent bleeding.

Optional use of endoscopic therapeutic modalities shall continue to play a pivotal role in the management of upper gastro intestinal bleeding in the years to come.

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Aim of the Study

To find out the nature of lesion on Upper Gastro Intestinal Endoscopy in patients admitted with UGI bleed.

MATERIALS AND METHODS

The present Cross Sectional Observation Study was carried out for a period of 1 year from 1st June 2015 to 31st June 2016. The present study was approved by the ethical committee. Informed consent taken from the participants. Hundred patients satisfying the following inclusion criteria and not having any of the exclusion criteria were taken up for the study.

Inclusion Criteria

All adult patients of both sexes who were giving definite history of vomiting of frank blood or coffee ground coloured vomit and / or passed dark coloured stools were chosen for this study.

Exclusion Criteria

The following groups of patients were excluded from this study after detailed history taking, clinical examination and investigations because of the confounding factors which will interfere with the results.

1. Bleeding and clotting disorders.
2. Haematological disorders.
3. Critically ill patients those who could not be mobilized for UGI endoscopy.

Study Method

History

Patients characteristics like age and sex were noted. Detailed history regarding the UGI bleeding like number of times of haematemesis approximate quantity of blood vomited each time, associated with melena or presenting with melena alone were obtained. Symptoms of common diseases that can lead to UGI bleeding and detailed history of drug intake like aspirin, other NSAIDs, steroids and symptoms due to blood loss were recorded in the questionnaire.

Detailed history asked from the patients regarding the risk factors of UGI bleeding-

1. Known peptic ulcer disease (diagnosed by a physician or a gastroenterologist).
2. Alcoholism (History of Alcohol Consumption, Duration, Quantity, Type of Alcohol intake was taken). 160 gms of Alcohol taken daily over a period of 10-15 yrs. will result in cirrhosis of liver.
3. Smoking (those patients who are smoking one or more beedies or cigarettes per day regularly for >3 months).
4. Intake of drugs that may cause UGI bleeding when taken like NSAIDs, steroids, bisphosphonates and chemotherapeutic agents were obtained.

Clinical Examination

Routine general and systemic examination of the patients was carried out with the aim of-

1. Assessing the general condition of the patient
2. Confirmation of UGI bleeding by Ryle’s tube aspiration.
3. Assessing severity of blood loss.
4. Assessing the common causes of gastro intestinal bleeding like Cirrhosis of liver with portal hypertension.
5. Ruling out haematological disorders causing UGI bleed.

Laboratory Investigations

Routine urine and blood investigations to find out haemoglobin status, blood Grouping and typing for transfusion, bleeding and clotting disorders and haematological disorders were carried out.

Upper Gastrointestinal Endoscopy

Endoscopy was done for all the patients after overnight fasting, using PENTAX video endoscopic system, to directly visualize the mucosa of the oesophagus, stomach and duodenum, like varices, ulcers, erosions.

The endoscopic stigmata of active or recent haemorrhage and endoscopic prognostic features like number of ulcers, site and location of ulcers, size of ulcers, bleeding or not healing or not, clean base of the ulcer or adherent blood clot, oozing of blood from the ulcer base and about visible blood vessel were studied.

The site, grading of varices were studied and search for rare causes for UGI bleed were made.

Study Approach

Number of patients affected, were studied with respect to age group, approximate quantity of total blood loss, prevalence of endoscopic findings in UGI bleed.

RESULTS AND OBSERVATIONS

In this Study of 100 cases of UGI Bleed the Sex distribution is observed as-

	Number of Cases	Percentage
Male	82	82%
Female	18	18%
Total	100	100 %

Table1. Distribution of Patients with UGIB According to Sex

Sl. No.	Age Group	Male	Female	Total
1.	Age < 20	-	1	1
2.	Age 20-34	17	2	19
3.	Age 35-49	32	4	36
4.	Age 50-64	22	10	32
5.	Age 65-79	11	1	12
	Total	82	18	100

Table 2. Distribution of Patients with UGIB According to Age and Sex

It was found that majority of patients (36%) were in the age of group of 35-49 years. The highest age of patient participated in study was 79 years and lowest age of patient was 18 years.

Aetiology of Upper Gastro Intestinal Bleeding (n=100) based on Endoscopic Findings.

Sl. No.	Endoscopic Diagnosis	Number of Patients	Percentage
1.	Variceal Bleeding	28	28%
	i) Cirrhosis of Liver with PHTN	27	27%
	ii) Non Cirrhotic PHTN(EHPVO)	1	1%
2.	Peptic Ulcer Disease	25	25%
	i) Gastric Ulcer	15	15%
	ii) Duodenal Ulcer	10	10%
3.	Erosive Mucosal Disease	25	25%
	i) Esophagitis	12	12%
	ii) Gastric Erosion	7	7%
	iii) Duodenitis	6	6%
4.	Mallory-Weiss Tear	15	15%
5.	GAVE	3	3%
6.	Normal Study	2	2%
7.	Carcinoma Stomach	1	1%
8.	Post EVL Variceal Bleed	1	1%
	Total	100	100%

Table 3. Endoscopic Diagnosis

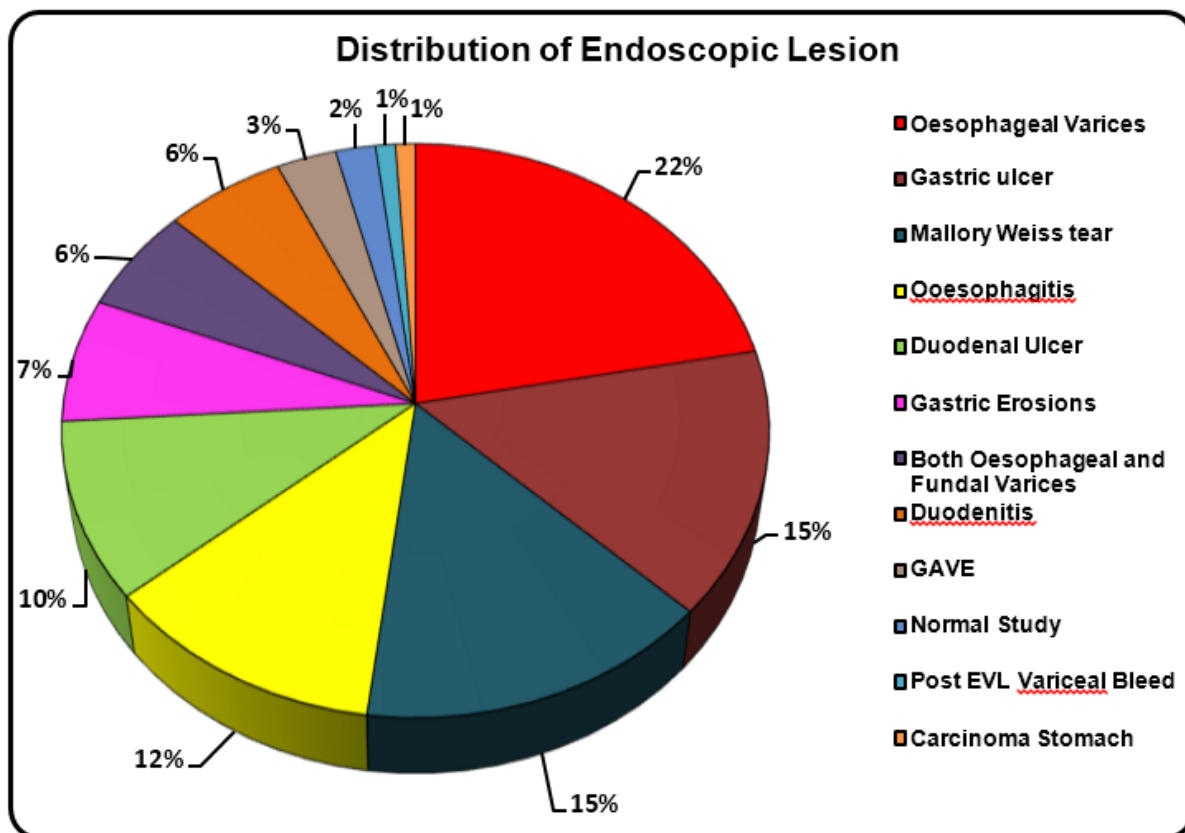


Figure 1

Endoscopic Findings and its Frequency with Sex

SL. No.	Endoscopic Findings	No. of Females	No. of Males	Total
2.	Gastric ulcer	5%	10%	15%
3.	Mallory Weiss tear	0%	15%	15%
4.	Oesophagitis	0%	12%	12%
5.	Duodenal Ulcer	1%	9%	10%
6.	Gastric Erosions	2%	5%	7%
7.	Both Oesophageal and Fundal Varices	2%	4%	6%
8.	Duodenitis	1%	5%	6%
9.	GAVE	3%	0%	3%
10.	Normal Study	0%	2%	2%
11.	Post EVL Variceal Bleed	0%	1%	1%
12.	Carcinoma Stomach	0%	1%	1%
Total		18%	82%	100%

Table 4. Distribution of Endoscopic Findings in Relation to Sex

In this study among 100 patients, 22 patients (22%) had Oesophageal Varices and 6 patients (6%) had both Oesophageal and fundal varices collectively comprising most common cause of UGI bleed contributing to 28% of the total with Male to Female ratio of 3.6:1.

It was found that 15 patients (15%) had gastric ulcer alone, 10 patients (10%) had duodenal ulcer alone collectively peptic ulcer comprising 2nd most common cause of UGI bleed contributing to 25% of total, with male to female ratio of 3.1:1.

Mallory Weiss Tear were noted in 15 patients (15%) and all were males.

The other acid peptic disorder lesions observed were Oesophagitis 12%, Gastric Erosion 7% and Duodenitis 6%.

GAVE were noted in elderly women accounting for 3% of total cases.

Upper Gastro Intestinal endoscopy was normal in 2 cases (2%) Post EVL Variceal bleed seen in 1 patient of 1% of total cases.

Carcinoma Stomach was noted in 1% of total cases. (Biopsy report showing moderately differentiated adeno carcinoma.

Sl. No.	Nature of Lesion	<20		20-34		35-49		50-64		65-79		Total
		M	F	M	F	M	F	M	F	M	F	
1.	Oesophageal Varices	-	-	2	-	10	2	4	2	2	-	22%
2.	Gastric Ulcer	-	-	1	1	4	-	2	3	3	1	15%
3.	Mallory-Weiss Tear	-	-	6	-	5	-	3	-	1	-	15%
4.	Oesophagitis	-	-	2	-	5	-	3	-	2	-	12%
5.	Duodenal Ulcer	-	-	1	1	3	-	3	-	2	-	10%
6.	Gastric Erosion	-	1	1	-	1	-	3	1	-	-	7%
7.	Both Oesophageal Gastric Varices	-	-	-	1	2	1	2	-	-	-	6%
8.	Duodenitis	-	-	2	-	2	1	1	-	-	-	6%
9.	Carcinoma Stomach	-	-	-	-	-	-	-	-	1	-	1%
10.	GAVE	-	-	-	-	-	-	-	3	-	-	3%
11.	Post EVL Variceal bleed	-	-	1	-	-	-	-	-	-	-	1%
12.	Normal Study	-	-	-	-	1	-	1	-	-	-	2%
Total											100%	

Table 5. Distribution of Endoscopic Findings and its Frequency with Age and Sex

Sl. No	Acid peptic disease	Male	Female	Total	%
1.	Gastric Ulcer Alone	10	5	15	30%
2.	Duodenal Ulcer Alone	9	1	10	20%
3.	Oesophagitis	12	-	12	24%
4.	Gastric Erosion	5	2	7	14%
5.	Duodenitis	5	1	6	12%
Total				50	100%

Table 6. Distribution of Endoscopic Findings of Acid Peptic Lesions

It was found that gastric ulcer was present in 15% patients (30%) among 50 patients of with single acid peptic disease lesion only, with male to female ratio of 2:1.

Oesophagitis 24% was the second common lesion and duodenal ulcer in 20% of patients with acid peptic lesion. 14% cases were due to gastric erosion and 12% due to duodenitis.

In this study UGI bleed the approximate quantity of blood loss is observed as-

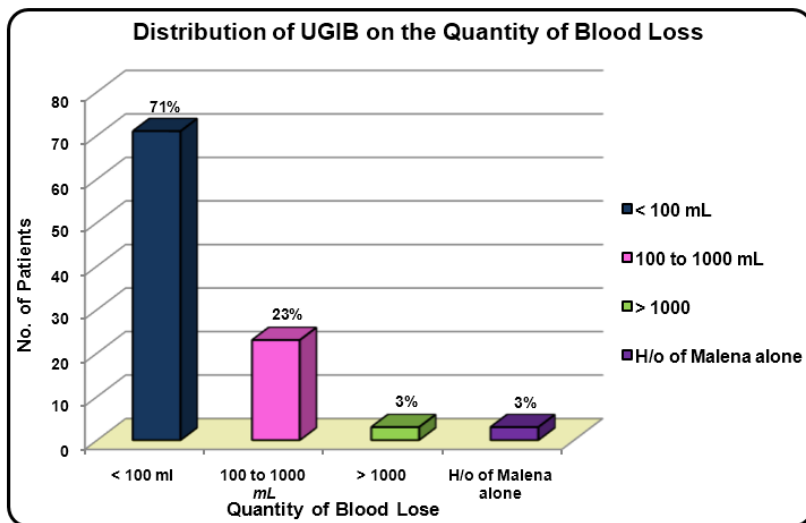


Figure 2

It was found that majority of patients 71% were having minor UGI bleed with < 100ml of blood less. Only 3% of the patients had major UGI bleed and three patients had only melena.

In this Study in UGI bleed frequency of severity of clinical presentation is observed as-

Sl. No.	Nature of Lesion	<100ml	100-1000ml	>1000ml	Melena only
1.	Oesophageal Varices	7	14	1	0
2.	Gastric Ulcer	14	1	0	0
3.	Mallory – Weiss Tear	15	0	0	0
4.	Oesophagitis	12	0	0	0
5.	Duodenal Ulcer	6	4	0	0
6.	Gastric Erosions	7	0	0	0
7.	Oesophageal and Fundal Varices	1	3	2	0
8.	Duodenitis	6	0	0	0
9.	Carcinoma Stomach	1	0	0	0
10.	GAVE	0	0	0	3
11.	Post EVI Varices Bleed	0	1	0	0
12.	Normal Study	2	0	0	0
Total		71	23	3	3

Table 7. Distribution of Endoscopic Lesion on the Quantity of Blood Loss

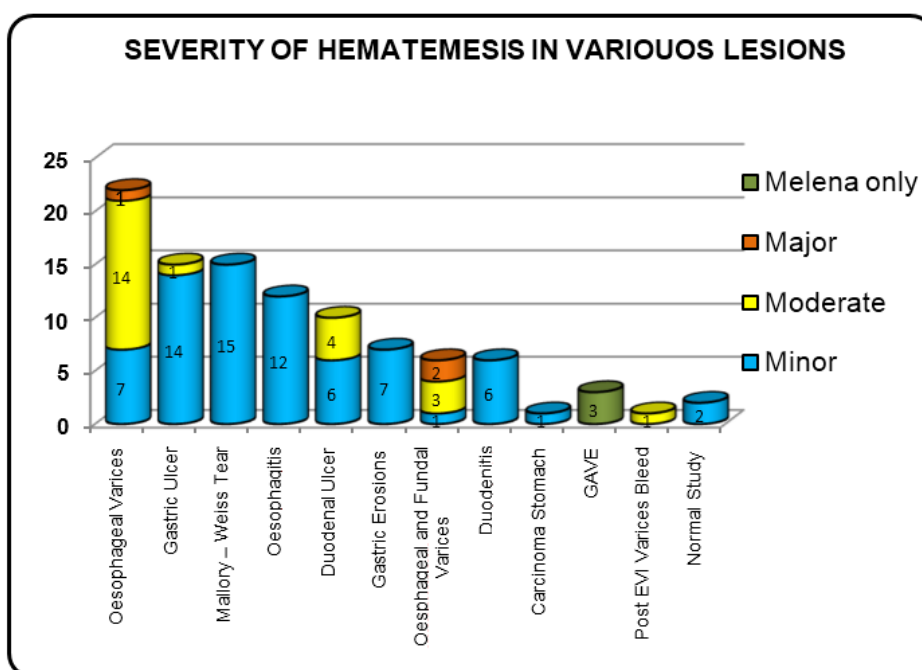


Figure 3

It was observed that 71% of lesions were presented as minor UGI bleed and 23% as moderate UGI bleed. Only 3% of lesions presented with major UGI bleed. Varices were the most common lesion found in major UGI bleed.

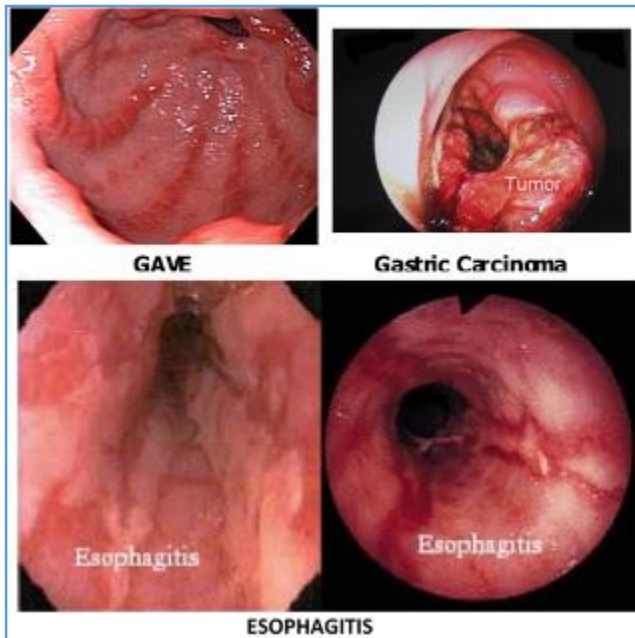


Figure 4

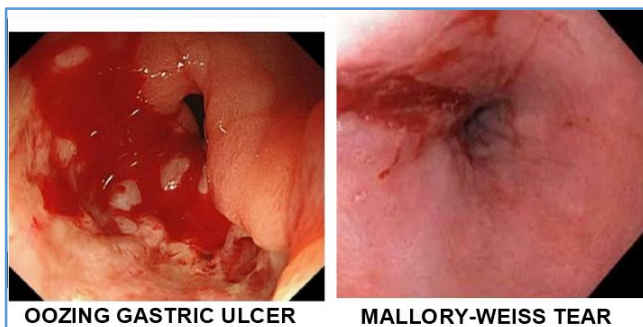


Figure 5

DISCUSSION

Sex

Out of one hundred patients studied, eighty two were male patients and eighteen were female with male, female ratio of 4.5:1. In a study at Tertiary care centre of north India Male to Female ratio was 5:1 (Deep Anand et al 2014).¹ Another study on 337 patients with UGIB Male to Female ratio was 4:1 (Md. Nadeem Parvez et al 2016).²

Study on 1929 patients with UGIB Male to Female ratio was 3:1 (KIM JJ et al (2014)).³

Age

In the present study percentage of number of patients with UGI bleed was found to be more in the age group of 35-49 years of age was 35% with mean age of patients was 48 years followed by 32% in the age group between 50-64 years.

In the study by Deep Anand et al (2014)¹ mean age of the patients was 49 years.

In study by Kim JJ et al (2014)³ mean age of the patients was 52 years and in another study by Md. Nazeem Parvez et al (2016)² the mean age of the patients was 55 years.

In another study by Mohammad J. Kaviani et al (2010)⁴ mean age of the patients in the study was 54 years.

Endoscopic Findings

In the present study, patients had undergone delayed UGI endoscopy by three to five days. The prevalence of nature of lesions is as follows.

Peptic Ulcer

In this study, gastric ulcer alone 5 cases (15%), duodenal ulcers alone 10 cases (10%) and collectively peptic ulcer remain the 2nd most common cause of UGI bleed with total of 25%.

In American Society for Gastrointestinal Endoscopy (Gilbert DA, Tedesco F J, et al)⁵ Chronic gastric and duodenal ulcers collectively remain the most common cause of hematemesis and melena.

Rockall et al; GF Longstreth:^{6,7} AMJ Gastroenterol 1995 reported peptic ulcer was the most common lesion on endoscopy in cases with UGI bleed.

The increased frequency of gastric ulcers bleed than duodenal ulcers is likely to be due to gastric ulcers have a slightly greater tendency to bleed than duodenal ulcers, 23.7% compared with 19.1%.

In study by Dewan KR et al, (2014)⁸ peptic ulcer disease was second most common cause of UGIB accounting for 33.5%. Gastric ulcer accounting for 22% and duodenal ulcer 11.5%.

In another study Mohammad J Kaviani et al (2010)⁴ peptic ulcer disease most common cause of UGIB accounting for 44%. Gastric ulcers 30% and duodenal ulcer 14%.

Oesophageal Varices

In this study, oesophageal varices contributes to 22% of cases of total UGI bleed. Oesophageal and Gastric varices contributed to 6% of cases of UGI bleed, collectively comprising most common cause of UGI bleed contributing to 28% of total with male to female ratio of 3.3:1.

In early study by mVan Leerdam⁹ et al (2003) reported most common cause of UGIB in his study was due to varices accounting for 20%.

Kim JJ et al³ (2014) in his study reported varices 2nd most common cause of UGIB 33%.

Md. Nadeem Parvez et al² (2016) reported varices second most common cause of UGIB accounting for 33%.

Adam T et al¹⁰ (2004) in a study quoted oesophageal varices to be the most common cause of UGIB 44.4%.

Dewan KR et al⁸ (2014) reported most common cause as varices for UGIB 47.5%.

Gastric Erosion

In this study, 7% of cases were due to gastric erosion. M. Uddin Ahmed et al¹¹ (2008) in a study on 50 patients at Rajshahi Medical College, reported 6% of cases of UGIB due

to gastric erosion. DM Jensen et al: 2003,¹² mentioned 2-7% of UGI bleed were due to gastric erosion.

Erosive gastritis 7-22% were reported in Johnston SJ, Jones et al, *Epidemiology and course of GIH*, British Medical Journal 1973. Dewan KR et al⁸ 2014 reported 11.6% of cases due to gastric erosions. Deep Anand et al¹ 2014 reported 12% of cases of UGIB due to gastric erosions. Khurram M. et al⁴ in a study of 2484 patients from DHQ, teaching hospital (2003) mentioned 15.3% gastric erosions were responsible for upper gastro intestinal bleed. Md. Nadeem Parvez² (2016) reported 17% of cases due to gastric erosions.

Esophagitis

In this study, 12% of cases were due to Esophagitis Kc Thromopoulos et al:¹³ European journal gastroenterol Hepatalol 16:2004 reported 1-13% cases of UGI bleed were due to Esophagitis. The American Society for gastrointestinal endoscopy national survey (Gilbert et al⁵) reported 6.3% cases of esophagitis as a cause for UGI bleed. Kim JJ et al³ (2014) reported 8% of cases due to esophagitis.

Carcinoma Stomach

In this study, 1% of cases of acute UGI bleed were due to Carcinoma Stomach. Biopsy sent for histopathology and reported moderately differentiated adeno carcinoma.

In Jones FA Problems of alimentary bleeding 1970;¹⁴ Gastric cancer accounted for 2.7% of cases of acute alimentary tract bleeding.

Dewan KR et al⁸ (2014) described 3.3 cases of gastric carcinoma as a cause of UGIB another study Deep Anand et al¹ (2014) reported 4.3% of cases due to UGIB due to Gastric Carcinoma.

Mallory – Weiss Tear

In this study 15% of cases of acute UGI bleed were due to Mallory-Weiss tear and all were males.

Mohammad J Kaviani et al⁴ (2010) reported 10% of cases another study Md. Nadeem Parvez et al² (2016) reported 8% of cases of UGIB due to Mallory-Weiss Tear, Deep Anand et al¹ (2014) also reported 8% of cases due to Mallory-Weiss Tear.

In another study Dewan KR et al⁸ (2014) reported 4% of cases.

Duodenitis

In our study, 6 cases of UGI bleed were found to have Duodenitis on Endoscopy. As evident as friable and punctuate erosion of a slightly nodular mucosa, mainly in the duodenal bulb, can be a source of blood loss. Gilbert DA et al ASGE⁵ Survey duodenitis was observed in 5.8% cases.

Dewan KR et al⁸ (2014) has reported in their study 6% of cases of UGIB are due to duodenitis.

GAVE

In present study GAVE reported in 3% of cases. Mohammad Nadeem Parvez et al² (2016) in a study on 337 patients reported 7% of cases of GAVE.

Normal Study

In present study of 100 patients with UGIB 2% of cases showed normal endoscopic findings. Mohammad Nadeem Parvez et al² (2016) in his study of 337 patients reported 3% of patients showing normal endoscopic findings.

CONCLUSION

The study on endoscopic findings in upper gastro intestinal bleed concludes that mean age of the patient was 48 years with male to female ratio of 4.5:1. This ratio reflects males are common sufferers. In this study, portal hypertension related oesophageal and fundal variceal bleed accounting for 27% were most common cause of UGIB. In 1% of case varices are due to extra hepatic portal vein obstruction. Peptic ulcer disease contributes second common lesion, next to varices in UGI bleed with prevalence of 25% (Gastric ulcer 15%, Duodenal Ulcer 10%). Minor UGI bleed was the commonest presentation, majority of lesions presented with minor UGI bleed accounting for 71% and 23% lesions presented as moderate UGI bleed. Only 3% presented as major UGI bleed. Varices contributed for the most common cause for major UGI bleed. Among other Acid peptic lesions Oesophagitis accounted for 24% of cases, Gastric erosion 14% and Duodenitis 12% of cases. Mallory-Weiss Tear was found on endoscopy in 15% of cases and all were males. Least common causes found on endoscopy were GAVE accounting for 3% and post EVI with variceal bleed accounting for 1%. Carcinoma Stomach seen in 1% of cases biopsy report showed moderately differentiated adeno carcinoma. 2% of cases showed normal endoscopic findings.

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