CLINICAL PRESENTATION, ETIOLOGY AND OUTCOME OF UPPER GASTROINTESTINAL BLEED FROM A TERTIARY CARE HOSPITAL OF EAST SIKKIM: AN OBSERVATIONAL STUDY.

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ABSTRACT: Upper gastrointestinal bleeding refers to blood loss within the intraluminal gastrointestinal tract from any location between the upper oesophagus to the duodenum at the level of the ligament of treitz. [1] It is a common medical emergency associated with significant morbidity and mortality. [2, 3] Bleeding from the upper gastrointestinal tract is approximately five times more common than lower gastrointestinal tract. [4] The common causes include duodenal ulcer, gastric ulcer, erosive mucosal disease, varices of portal hypertension and Mallory Weiss syndrome. Less common causes include esophagitis, neoplasm and angiodysplasia. [5] Bleeding from the gastrointestinal tract may present as hematemesis, maelena, hematochezia, occult gastrointestinal bleeding, and anaemia. [6]

The overall incidence of acute upper gastrointestinal hemorrhage has been estimated at 50 to 100 per 100,000 patients per year, with an annual hospitalization rate of approximately 100 per 100,000 hospital admissions. [7, 8] The incidence of upper gastrointestinal bleeding is increasing in elderly people; one study found that those over 65 years of age comprised over 30% of those with upper gastrointestinal bleeding. [9]

AIMS AND OBJECTIVES: To study clinical presentation, identify the etiology and to assess the hospital outcome of upper gastrointestinal bleed patients admitted in Department of Medicine, Central Referral Hospital, Gangtok.

OBSERVATIONS: In the above study maximum patient were in the age group of 51-60 years with mean age of 53.70years. There were no patients below 20 years and above 90 years. Male (72.9%) were affected more than the female (27.1%). Most common presenting complaints were maelena in 40 (57.1%), hematemesis in 17(24.2%) patients. History of intake of aspirin was more common in female than male. Similarly NSAIDS intake history was common in male than in female. Regular

alcohol intake was seen in 40 (57.1%) , 19 (27.1%) occasional, 2 (2.8%) ex alcoholic patients and 9 (12.8%) non alcoholic patient in the study. 23 (32.8%) were regular smoker, 12 (17.1%) ex-smoker and 6 (8.5%) occasional smoker. There was no history of smoking in 6 (8.5%) patients. Smoking habits was more common in males as compare to females. Non-vegetarian 58 (82.85%) and vegetarian diet 12 (17.1%). In the above study maximum patient had oesophageal varices 26 (37.1%) as the cause of bleeding followed by duodenal ulcer and erosive mucosal disease 11(15.7%) each. Gastric ulcer were the cause on 8(11.4%) patients and esophagitis were present on 7 (10%). Portal gastropathy was present on 5 (7.1%) and tumors on 2 (2.8%). Average duration of stay in hospital was 8.2 days. The minimum and maximum duration of hospital stay were 4 and 20 days respectively. 41(58.5%) improved with medication and 25 (35.7%) patients required endoscopic intervention in form of banding, sclerotherapy, Out of 70 patients 2 (2.8%) were referred and another 2 (2.8%) patient expired.

CONCLUSION: The above study conducted over a span of one year from 1st June 2010 to 31st May 2011 among the patient of upper gastrointestinal bleeding has revealed that esophageal varices was the commonest cause of upper gastrointestinal bleeding in Sikkim. It is followed by peptic ulcer disease and erosive mucosal disease. Increasing trend of esophageal varices is probably due to alcohol abuse leading to alcoholic cirrhosis and various other causes. In addition to that due to overuse of proton pump inhibitors and declining H. pylori infection has decreased the prevalence of peptic ulcer disease as compare to some study from western countries.

INTRODUCTION: Upper gastrointestinal bleeding refers to blood loss within the intraluminal gastrointestinal tract from any location between the upper oesophagus to the duodenum at the level of the ligament of treitz. [1] It is a common medical emergency associated with significant morbidity and mortality. [2,3] Bleeding from the upper gastrointestinal tract is approximately five times more common than lower gastrointestinal tract [4] The common causes include duodenal ulcer, gastric ulcer, erosive mucosal disease, varices of portal hypertension and Mallory Weiss syndrome. Less common causes include esophagitis, neoplasm and angiodysplasia [5] Bleeding from the gastrointestinal tract may present as hematemesis, maelena, hematochezia, occult gastrointestinal bleeding, and anaemia. [6]

The overall incidence of acute upper gastrointestinal hemorrhage has been estimated at 50 to 100 per 100,000 patients per year, with an annual hospitalization rate of approximately 100 per 100,000 hospital admissions. [7, 8] The incidence of upper gastrointestinal bleeding is increasing in elderly people; one study found that those over 65 years of age comprised over 30% of those with upper gastrointestinal bleeding. [9]

The incidence of upper gastrointestinal bleeding is 2-fold greater in males than in females, in all age groups, however, the death rate is similar in both sexes. [10] Mortality increases with older age (>60 y) in males and females. [11]

Acute gastrointestinal bleeding occurs frequently, prompting hospital admission or complicating another illness. With a systematic management approach, nine out of ten patients with massive upper gastrointestinal bleed can be saved. [12] Despite advances in critical care monitoring and support, mortality rates of 10% to 20% continue to be reported. [13,14] While spontaneous cessation of bleeding occurs in as many as 85% of cases and early intervention is required in those

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in whom bleeding does not stop spontaneously. [15,16] Endoscopic diagnosis and therapy is now an integral part of the management of these patients.[17] Within 12-24 hours of admission, endoscopy will detect the cause of haemorrhage in about 80% or more if performed expertly. [18]

The incidence of upper gastrointestinal bleeding is 2-fold greater in males than in females, in all age groups; however, the death rate is similar in both sexes. [19] Mortality increases with older age (>60 y) in males and females. [20]

A study by A R M Saifuddin Ekram et al, Bangladesh has revealed that hematemesis and maelena (42%), only maelena (42%) and only hematemesis (16%) as the presenting features.[21] A study of clinical profile of acute upper gastrointestinal bleeding by Lal Singh Pal et al, has revealed that both hematemesis and maelena (56.8%), only hematemesis (28%) and only maelena (14.4%) as the clinical presentation. [22] A study by Bedi TRS et al, Kathmandu, Nepal found hematemesis (56.7%), maelena (14.4%), recent onset anaemia with positive occult blood (22.2%) and both haemetemesis and maelena (6.7%) as presenting features.[23] Another study from northwestern Tanzania by Hyasinta et al found that the vast majority of patient presented with hematemesis (80.4%) alone. Maelena alone was reported in 9.2% patients. Both hematemesis and maelena (5%) and hematochezia (0.8%) were other presenting features. [24] A study by C. Sugawa et al, Michigan has revealed the presenting complaints as hematemesis (58%), maelena (45%), nasogastric aspirate containing blood or clot (19%), syncope (12%) and hematochezia (10%).[25] Gastroduodenal ulcer disease remains a common cause of upper gastrointestinal bleeding.[26] There are four major risk factors for bleeding peptic ulcers.[27,28]

Through the various recent advances in medication and endoscopy, the identification of etiology, clinical profile and outcome provides a significant opportunity to reduce the burden of morbidity and mortality due to upper gastrointestinal haemorrhage. Research oriented study regarding the clinical profile, etiology and outcome of upper gastrointestinal bleeding patient is lacking. Systemic approach on this front could add to the background data in the mind of the clinician treating such patients. In the long run, the result of this study conducted in Sikkim could be compared with data from similar studies conducted elsewhere and this would lead to the enhancement of knowledge regarding clinical profile, etiology and outcome of upper gastrointestinal bleed patient.

AIMS AND OBJECTIVES: To study clinical presentation, identify the etiology and to assess the hospital outcome of upper gastrointestinal bleed patients admitted in Department of Medicine, Central Referral Hospital, Gangtok.

OBSERVATIONS: Observations are presented as tables.

TABLE 1: Showing age and gender distribution.

Gender	Mean Age	Total Patients (70)	Minimum Age	Maximum Age
Male	55.00	51 (72.85%)	28	82
Female	50.21	19 (27.14%)	28	72

TABLE 2: Showing age wise distribution of presenting complaint

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Presenting complaints	Age Group							Total (70)
	21-30	31-40	41-50	51-60	61-70	71-80	81-90	
Hematemesis	0	3	1	7	4	1	1	17 (24.29%)
Maelena	2	8	8	10	7	5	0	40 (57.14%)
Both Hematemesis and Maelena	0	3	4	3	1	2	0	13 (18.57%)

TABLE 3: Showing drug history in different gender.

DRUG HISTORY	Gender		Total (70)
	male	female	
NSAIDS	4	3	7 (10.00%)
ASPIRIN	2	7	9 (12.86%)
Others	6	2	8 (11.43%)
No drug history	39	7	46 (65.71%)

TABLE 4: Showing alcohol history in different age-group

Alcohol history	Age Group							Total (70)
	21-30	31-40	41-50	51-60	61-70	71-80	81-90	
Regular	0	9	8	11	6	6	0	40 (57.14%)
Ex-alcoholic	0	0	1	1	0	0	0	2 (2.86%)
Occasional	1	4	1	6	5	1	1	19 (27.14%)
Non Alcoholic	1	1	3	2	1	1	0	9 (12.86%)

TABLE 5: Showing smoking history in different gender group.

Smoking History	Gender		Total (70)
	male	female	
Regular Smoker	21	2	23 (32.86%)
Ex-smoker	11	1	12 (17.14%)
Occasional	6	0	6 (8.57%)
Non Smoker	13	16	29 (41.43%)

TABLE 6: Showing stool for occult blood in different gender

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Stool For OBT	Gender		Total (70)
	male	female	
Positive	21	4	25 (35.71%)
Negative	30	15	45 (64.29%)

TABLE 7: Showing dietary habits in different age-groups

	Age Group							Total (70)
	21-30	31-40	41-50	51-60	61-70	71-80	81-90	
Diet								
Vegetarian	0	3	3	2	2	2	0	12 (17.14%)
Non-vegetarian	2	11	10	18	10	6	1	58 (82.85%)

TABLE 8: Showing blood groups in different age-groups.

BLOOD GROUP	Age Group							Total (70)
	21-30	31-40	41-50	51-60	61-70	71-80	81-90	
A+	0	5	1	5	4	4	1	20 (28.57%)
B+	0	3	5	9	8	2	0	27 (38.57%)
AB+	0	2	1	3	0	1	0	7 (10.00%)
O+	1	3	6	3	0	1	0	14 (20.00%)
A-	0	1	0	0	0	0	0	1 (1.43%)
B-	1	0	0	0	0	0	0	1 (91.43%)

TABLE 9: Showing the USG Findings.

Ultrasonography of Abdomen	Age Group							Total (70)
	21-30	31-40	41-50	51-60	61-70	71-80	81-90	
Liver Cirrhosis	0	6	5	8	4	4	0	27 (38.57%)
Other than liver cirrhosis	0	3	1	2	3	2	0	11 (15.71%)
Normal Study	2	5	7	10	5	2	1	32 (45.71%)

TABLE 10: Showing the findings by upper GI endoscopy in different age groups.

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Etiology by Endoscopy	Age Group							Total(70)
	21-30	31-40	41-50	51-60	61-70	71-80	81-90	
Duodenal Ulcer	0	1	5	3	1	1	0	11 (15.71%)
Gastric Ulcer	0	2	1	1	3	1	0	8 (11.42%)
Esophageal Varices	0	6	4	8	4	4	0	26 (37.14%)
Esophagitis	0	2	1	2	1	0	1	7 (10%)
Erosive Disease	2	1	0	4	2	2	0	11 (15.71%)
Tumors	0	0	0	1	1	0	0	2 (2.85%)
Portal Gastropathy	0	2	2	1	0	0	0	5 (7.14%)

TABLE 11: Showing findings by endoscopy in different gender.

Etiology by Endoscopy	Gender		TOTAL(70)
	male	female	
Duodenal Ulcer	5	6	11 (15.71%)
Gastric Ulcer	3	5	8 (11.42%)
Esophageal Varices	21	5	26 (37.14%)
Esophagitis	7	0	7 (10%)
Erosive Mucosal Disease	8	3	11 (15.71%)
Tumors	2	0	2 (2.85%)
Congestive Gastropathy	5	0	5 (7.14%)

TABLE 12: Showing duration of stay in hospital.

	Minimum	Maximum	Mean
Duration of stay in hospital (in days)	4	20	8.2

TABLE 13: Showing outcome at discharge of different age groups.

Outcome at discharge	Age Group							Total (70)
	21-30	31-40	41-50	51-60	61-70	71-80	81-90	
Improved with conservative treatment	2	8	9	11	6	4	1	41(58.57%)
Requirement of endoscopic intervention								
Referred out.								
Expired	0	5	4	8	4	4	0	25(35.71%)
	0	0	0	1	1	0	0	2(2.85%)
	0	1	0	0	1	0	0	2(2.85%)

TABLE 14: Showing outcome at discharge of different gender.

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Outcome at the discharge	Gender (total 70)	
	Male (51)	Female (19)
Improved with conservative treatment	28 (54.90%)	13 (68.42%)
Requirement of endoscopic intervention	20 (39.21%)	5 (26.31%)
Referred	2 (3.92%)	0 (0%)
Expired	1 (1.96%)	1 (5.26%)

DISCUSSIONS: Acute gastrointestinal bleeding is one of the serious gastrointestinal medical emergency. Acute upper gastrointestinal bleeding is associated with considerable morbidity and mortality rates (13%), as well as the enormous financial burden on health services.[29] Patients with severe acute gastrointestinal bleeding are seriously ill and require proper assessment and intensive monitoring of their vitals and clinical progress.[30] Urgent endoscopy in is an essential part of a medical care. It is not only reliable in identifying the cause of bleeding, but it enables to start therapeutic intervention immediately and assessing the prognosis of a patient.[31] The result were obtained and compared with the available literature. In the above study maximum patient were in the age group of 51-60 years with mean age of 53.70years. There were no patients below 20 years and above 90 years. Male (72.9%) were affected more than the female (27.1%). Most common presenting complaints were maelena in 40 (57.1%), hematemesis in 17(24.2%) patients. There was history intake of NSAIDS in 7 (10%) patients, Aspirin in 9 (12.8%), other medicines in 8 (11.4%). No medication in 46 (65.7%) patients. History of intake of aspirin was more common in female than male. Similarly NSAIDS intake history was common in male than in female. Regular alcohol intake was seen in 40 (57.1%) , 19 (27.1%) occasional, 2 (2.8%) ex alcoholic patients and 9 (12.8%) non alcoholic patient in the study. 23 (32.8%) were regular smoker, 12 (17.1%) ex-smoker and 6 (8.5%) occasional smoker. There was no history of smoking in 6 (8.5%) patients. Smoking habits was more common in males as compare to females. Non-vegetarian were 58 (82.85%) and vegetarian diet were 12 (17.1%). The blood group B+ was 27(38.5%) and was the most common blood group. Least common blood group was A- (1.4%) and B- (1.4%). Stool for occult blood were positive in 25 (35.7%) patients and was negative in 45 (64.2%) patients. In the above study 27 (38.5%) had feature of liver cirrhosis, 11(15.7%) had other findings than cirrhosis and 32 (45.7%) patient had normal study on ultrasonography of abdomen. In the above study maximum patient had oesophageal varices 26 (37.1%) as the cause of bleeding followed by duodenal ulcer and erosive mucosal disease 11(15.7%) each. Gastric ulcer were the cause on 8(11.4%) patients and esophagitis were present on 7 (10%). Portal gastropathy was present on 5 (7.1%) and tumors on 2 (2.8%). Esophageal varices were present maximum in age group 51-60 year. Average duration of stay in hospital was 8.2 days. The minimum and maximum duration of hospital stay were 4 and 20 days respectively. 41(58.5%) improved with medication and 25 (35.7%) patients required endoscopic intervention in form of banding, sclerotherapy, Out of 70 patients 2 (2.8%) were referred and another 2 (2.8%) patient expired.

CONCLUSION: The above study conducted over a span of one year from 1st June 2010 to 31st May 2011 among the patient of upper gastrointestinal bleeding has revealed that esophageal varices was the commonest cause of upper gastrointestinal bleeding in Sikkim. It is followed by peptic ulcer disease and erosive mucosal disease. Increasing trend of esophageal varices is probably due to alcohol abuse leading to alcoholic cirrhosis and various other causes. In addition to that due to overuse of proton pump inhibitors and declining *H. pylori* infection has decreased the prevalence of peptic ulcer disease as compare to some study from western countries.

Upper gastrointestinal endoscopy was able to identify bleeding in most of the patients if done within 12-48 hours. Endoscopy can be used as diagnostic as well as therapeutic measures. It is therefore recommended that, early endoscopy should be performed preferably within 24 hours of bleeding. Endoscopic treatment was successful in most cases besides conservative treatment. The high prevalence of variceal bleeding and underlying chronic liver disease might explain the increased length of hospital stay and mortality. Further identification of subsets of patients with a high-risk, based on a standardized protocol, may contribute to an improved management of upper gastrointestinal bleeding, including early definition of the most appropriate therapeutic intervention according to local conditions.

Acute upper gastrointestinal bleeding due to peptic ulcer disease can be prevented through strict and judicious use of aspirin and NSAIDs, eradication of *H. pylori* infection and antiulcer therapy should be given in high risk patients who need chronic NSAIDs or aspirin therapy. Avoidable risk factors particularly alcoholism, smoking, NSAIDs should be curtailed down. Early interruption of risks factors will significantly reduces the burden of morbidity and mortality due to upper gastrointestinal bleeding.

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