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CHRONIC LIVER DISEASE;
FREQUENCY OF NON VARICEAL UPPER GASTROINTESTINAL BLEEDING IN THE PATIENTS

Dr. Ahsan Mobin[1], Dr. Fawed Qureshi[2], Dr. Darshan Kumar[3], Dr. Hussain Haroon[4], Dr. Rakhshinda Jabeen[5]

1. MBBS, FCPS
Assistant Professor of Medicine
Dow University Hospital
OJHA Campus Karachi
2. MBBS, FCPS
Assistant Professor of Medicine
Dow University Hospital
OJHA Campus Karachi
3. MBBS, FCPS
Assistant Professor of Medicine
Dow University Hospital
OJHA Campus Karachi
4. MBBS, FCPS
Assistant Professor of Medicine
Dow University Hospital
OJHA Campus Karachi
5. MBBS, FCPS
Assistant Professor of Medicine
Dow University Hospital
OJHA Campus Karachi

Correspondence Address:
Dr. Ahsan Mobin
Assistant Professor of Medicine
Address: A-4, Block-8,
Azizabad, F.B Area, Karachi.
drahsanmobin@gmail.com

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ABSTRACT… Objectives: To determine the frequency of non variceal upper gastrointestinal bleeding in the patients of chronic liver disease. **Study Design:** Cross sectional study. **Place and Duration of Study:** All medical wards of Civil Hospital and Ojha campus, Dow University of Health Sciences, Karachi, Pakistan from May 2013 to January 2015. **Methodology:** A total of 267 patients of chronic liver disease (CLD) who presented with upper GI bleed (hematemesis or melena) were included in this study. Before the endoscopic procedures, patients were clinically evaluated by gastroenterology fellows at the time of patient's presentation. Upper GI endoscopy was performed within 48 hours in all hemodynamically stable patients. **Results:** The average age of the patients was 44.27±12.13 years. Frequency of non variceal upper gastrointestinal bleeding (NVUGIB) in the patients of chronic liver disease was 56.93% (152/167). **Conclusion:** It is concluded that current magnitude of NVUGIB is very high in cirrhotic patients therefore adequate planning and knowledge of the specific mechanisms explaining the prognostic factors of NVUGIB to prevent it and thereby reducing the morbidity and mortality in Chronic Liver Disease.

Key words: Chronic Liver Disease, Non-variceal, Upper gastrointestinal bleeding

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INTRODUCTION

Upper gastrointestinal bleeding (UGIB) is one of the most common emergencies in gastroenterology and has a considerable morbidity and mortality. The overall mortality of UGIB has been reported is between 4%-15% in most studies.[1,2] Upper GI Bleed is classified according to the presence of a variceal or nonvariceal cause of bleeding. In patients of chronic liver disease, gastroesophageal variceal bleeding is more common which has been frequently studied.[3,4]

About 50% of patients with chronic liver disease who present with upper GI bleed have nonvariceal upper gastrointestinal bleeding (NVUGIB)[5], with gastroduodenal ulcers as the most frequent etiology.[6] In a study by González-González JA, et al[5] on a large population of 2217 patients of upper gastrointestinal bleeding, 48.7 % of patients had NVUIG and 51.3% of patient had oesophageal or gastric varices. Though Chronic liver disease has a serious impact in patients with NVUGIB[7] and the knowledge of such patients becomes important but surprisingly the aspect of presentation with NVUGIB has not been studied much separately, though there are few studies internationally in which variceal and non variceal bleedings were analyzed together.[8]

Till date, no study has been conducted in Pakistani population regarding any aspect of non variceal upper gastrointestinal bleeding in chronic liver disease. With high prevalence of chronic liver disease in our population, identification of patients with NVUGIB is vital to plan management and is helpful in determining prognosis.[9] So this study is to determine the frequency of NVUGIB in patients of cirrhosis which would be helpful in elucidating the current magnitude of such patients which can lead to adequate planning by health care providers in emphasizing means to prevent it and thereby reducing the morbidity and mortality in Chronic Liver Disease.

SUBJECTS AND METHODS

This study was conducted in different medical wards of Civil Hospital Karachi. Study started from 12th of May 2013, continued for about eight months and ends in January 2015. Patients are admitted in different medical wards either through casualty or from the outpatient department All the patients of Chronic Liver Disease more than 6 months duration due to any cause with the features of decompensation were selected. Before the endoscopic procedures, patients were clinically evaluated by gastroenterology fellows (having 10 years of experience) at the time of patient's presentation. Hemodynamic unstable patients (expressed by a heart rate >100 beats/min, hypotension with a systolic pressure < 90 mmHg and/or diastolic value <60 mmHg) was given intravenous 0.9% Normal Saline solution. Packed Red blood cells would be transfused if hemoglobin levels would be less than 9 gm/dl. Every Patient was given Injection Omeperazole 8mg/hour infusion and injection Terlipression 1gm 6 hourly till 48 hours. Upper GI endoscopy was performed within 48 hours in all hemodynamically stable patients (a heart rate < 100 beats/min, with a systolic pressure > 90 mmHg and/or diastolic value > 60 mmHg) by a gastroenterologist (having experience of 10 years) of Medical units Civil Hospital and Dow University hospital Karachi also after taking informed written consent. All patients of either sex, having age more than 18 years and less than 65 years who were present with upper GI bleed (hematemesis or melena), patients with illness of more than 6 months were included in this study. Patients with acute hepatitis or fulminant hepatic failure, Patients with Drug induced liver failure, patients with history of sclerotherapy for gastric varices or band ligation for oesophageal varices within 30 days, patients who do not give consent for endoscopy, previous history of intravenous omeperazole infusion within last 7 days were excluded from this study.

RESULTS

A total of 267 patients of chronic liver disease (CLD) who presented with upper GI bleed (hematemesis or melena) were included in this study. Bar graph of the age distribution is showed that 31 to 60 years of age patients were common in this study. The average age of the patients was 44.27±12.13 years (95%CI: 42.80 to 45.73) similarly average duration of disease was 5.31±2.94 years as presented in table I. Out of 267 cases, 149(55.81%) were male and 118(44.19%) female. Male to female ratio was 1.26:1 as shown in figure-1. Distribution of the duration of disease of the patients is also presented in figure-1.

Frequency of non variceal upper gastrointestinal bleeding (NVUGIB) in the patients of chronic liver disease was 56.93% (152/167) cases. Stratification analysis was also performed to control effect of age groups and observed that rate of NVUGIB of significantly high in above 50 years of age as compare to below 50 years of age (p=0.001) (table-I).

Variable	No. Patients	Percentage
Gender		
Male	149	55.81%
Female	118	44.19%
Age		
<30 years	44	16.48%
31-40 years	61	22.85%
41-50 years	64	23.92%
51-60 years	57	21.35%
> 61 years	41	15.36%
Duration of the patients		
< 5 year	168	62.92%
6 to 10 years	80	29.96%
>10 years	19	7.12%

Table-I. Demographic variable

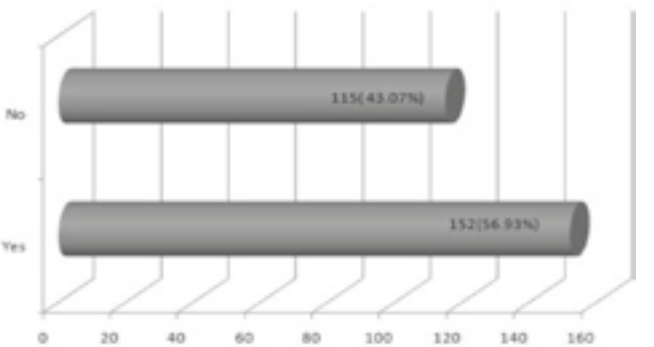

Fig-1. Frequency of non variceal upper gastrointestinal bleeding in the patients of chronic liver disease

DISCUSSION:

Non-variceal gastrointestinal bleeding remains a common emergency gastroenterologists and challenging and internists. The annual incidence is 50-150 per 100,000 population, and although there has been a significant improvement endoscopic and supportive therapy, the overall mortality remains stubbornly around 10% and may even reach 35% in patients in the hospital to cooperate seriously ill. Patients older than 80 currently represent approximately 25% of all UGIB 33% of UGIB occur to patients in the hospital and, as a result, tend to represent the majority of the poor outcome of this situation.[10]

An overall mortality rate evaluated of 24% at 6 weeks and 40% at 1 year.[11] Epidemiology of UGIB in patients with cirrhosis has been rarely reported.[11,12] The main European and North-American epidemiologic studies regarding UGIB did not distinguish cirrhotic patients from other patients exhibiting UGIB[13,14] or emphasized the epidemiologic characteristics of patients with peptic ulcer bleeding.[15] Furthermore, authors who evaluated UGIB occurring specifically in cirrhotic patients described the prediction of mortality in multivariate analyses and established scores for death prediction.[16]

In Pakistan, infectious diseases are common viral hepatitis has a very common. In Pakistani adults, HBV is responsible for 30% of acute viral hepatitis cases.[17] Quality carrier surface antigen of hepatitis B is 1.5 to 2.1%. These third patients were positive for HBeAg with high potential infectivity and disease progression.

The average age of the patients was 44.27±12.13 years (95%CI: 42.80 to 45.73). Out of 267 cases, 149(55.81%) were male and 118(44.19%) female. Male to female ratio was 1.26:1. In Pasha et al study[18] total of one hundred 56 (56%) male and 44 (44%) female patients were included in the study. Mean age was 47.46 years (SD ±11.79) with age range of 19- 80 years.

About 50% of patients with chronic liver disease who present with upper GI bleed have nonvariceal upper gastrointestinal bleeding (NVUGIB)[5], with gastroduodenal ulcers as the most frequent etiology. In this study frequency of non variceal upper gastrointestinal bleeding (NVUGIB) in the patients of chronic liver disease was 56.93% (152/167) cases. In González-González JA, et al[5] study on a large population of 2217 patients of upper gastrointestinal bleeding, 48.7 % of patients had NVUIG and 51.3% of patient had oesophageal or gastric varices.

Though Chronic liver disease has a serious impact in patients with NVUGIB and the knowledge of such patients becomes important but surprisingly the aspect of presentation with NVUGIB has not been studied much separately, though there are few studies internationally in which variceal and non variceal bleedings were analyzed together.[19] Lecleire et al study[8] confirmed that the most frequent bleeding lesion observed in cirrhotic patients was gastroesophageal varices (59.1%). In others study a frequency of esophageal varices bleeding ranging between 49% and 72%.[17] Peptic ulcer bleeding was the most frequent lesion in noncirrhotic patients (41.8%) and the second most frequent bleeding lesion in cirrhotic patients (15.7%).

Overall UGIB mortality in hospitalized patients (outpatients excluded) was 14.3% and compared favorably with European and North-American series.[20,21] Mortality during hospitalization rate was significantly higher in cirrhotic patients (23.5%) than in noncirrhotic patients (11.2%) and is in agreement with other reports focusing exclusively on patients with cirrhosis with a mortality ranging from 20% in recently reported series[22] as compared with 42% in the studies prior to 1985.[23] The important decrease in mortality observed during the past 20 years, and confirmed by our study, could be explained by major changes in medical and endoscopic management of UGIB in cirrhotic patients.[24]

Although the clinical characteristics, bleeding lesions, and overall prognosis were quite different in cirrhotic and noncirrhotic patients, the multivariate analysis identified six independent

predictive factors of mortality that were common to both populations: a prothrombin level less than 40%, a coexisting digestive carcinoma, the use of corticosteroids in the 7 days prior to bleeding, occurrence of UGIB in inpatients, a presentation with hematemesis, and an age over 60 years.[8] This significant finding requires further analysis. If six prognostic factors of mortality of UGIB are common in cirrhotic patients and noncirrhotic patients, it is evident that their relative weight and their pathophysiological meaning are quite different in both populations.[8]

In cirrhotic patients, a low prothrombin level reflects the severity and the prognostic impact of underlying liver disease and has been claimed to be the more pertinent element in the Child-Pugh score as a prognostic factor.[25] If the use of corticosteroids is not involved as a causative factor in most of the UGIB[26], in contrast corticosteroids are clearly a major prognostic factor. The prognostic impact of steroids is probably indirectly linked to the severity of the underlying disease treated by these drugs: acute alcoholic hepatitis in cirrhotic patients and nonregistered coexisting illnesses in noncirrhotic patients.[27]

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CONCLUSION

It is concluded that current magnitude of NVUGIB is very high in cirrhotic patients therefore adequate planning and knowledge of the specific mechanisms explaining the prognostic factors of NVUGIB to prevent it and thereby reducing the morbidity and mortality in Chronic Liver Disease.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Dr. Ahsan Mobin	Conception and design, Statistical expertise, Critical revision of the article for important intellectual content	
2	Dr. Fawed Qureshi	Data collection	
3	Dr. Darshan Kumar	Drafting of the article	
4	Dr. Hussain Haroon	Drafting of the article	
5	Dr. Rakhshinda Jabeen	Drafting of the article	