ORIGINAL ARTICLE

Clinical Profile, Severity and Outcome of Acute Upper Gastrointestinal Bleeding in Elderly Patients Compared to Non-elderly Patients: A Prospective Observational Study

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Abstract

Aim: To determine the clinical profile, severity and outcome of acute upper gastrointestinal bleeding (UGIB) in elderly subjects (>60 years) compared to the non elderly ones (<60 years).

Methods: In a prospective observational study, 380 consecutive adult patients presenting with acute UGIB were enrolled. Patients were divided into two groups: elderly (≥60 years) and non-elderly (<60 years).

Results: Out of 380 patients, 254(66.84%) patients were non-elderly and 126(33.15%) patients were elderly. The proportion of patients with co-morbidity and consumption of non-steroidal anti-inflammatory drugs was higher among elderly patients. The commonest mode of presentation was hematemesis and melena in the both groups, while isolated hematochezia (29% vs. 1.9%, p<0.01) was more common in elderly group. The variceal bleeding was significantly higher among non-elderly group (38.1% vs. 18.2%, p<0.01) and bleeding from gastric or duodenal ulcer was the predominant cause of bleeding among elderly group (65% vs. 43% p<0.01). The proportion of patients with tachycardia (68.2% vs. 20%, p<0.01), postural hypotension (29.3% vs. 14.9%, p<0.01) and blood transfusion requirement of 4 units or more (20.2% vs. 10.1%, p<0.01) was significantly higher among elderly group than in non-elderly group. Despite similar re-bleeding rates, mortality rate was significantly higher in elderly patients compared to the non-elderly patients (10.32% vs. 1.94%, p<0.01).

Conclusions: Nearly 33% of the patients with acute UGIB are over 60 years old. The severity of bleeding and mortality rates was higher in elderly in comparison to non-elderly patients.

Introduction

Acute upper bleeding (UGIB) remains a common emergency and a potentially serious condition that generally requires hospitalization. UGIB occurs more commonly in men and older subjects.[1,2] It is estimated that 35-45% of all patients presenting with upper GI bleed are over the age of 60.[3,4] Age and co morbidities are the most important factors for high mortality in patients with UGIB. GI bleeding in elderly is associated with increased mortality and morbidity than in young, which is in part attributable to increased co morbid illness and greater use of medication such as aspirin, non steroidal anti-inflammatory drugs, warfarin.[5,6] The profile of UGIB varies in different age groups. While duodenal ulcer bleeding is more common in younger age group, bleeding from gastric ulcer or esophageal varices are commonly seen in middle age group and from gastro-esophageal malignancy in elderly.[7-9] Furthermore, the pain sensitivity decreases with age. This along with frequent use of analgesic drugs cause suppression of gastroduodenal ulcer pain in upto 50% of elderly leading to delay in the diagnosis and development of complications such as perforation and hemorrhage.[10-11] The epidemiological spectrum of UGIB in terms of magnitude, etiology, gender distribution and severity may vary in different geographical regions. Such data, though scant in India, are important in making strategies to combat morbidity and mortality. The current study was aimed to determine the clinical profile, severity and outcome of UGIB in elderly subjects (>60 years) compared to the non elderly ones (<60 years).

Methods

This was a prospective observational study was conducted at Indira Gandhi Medical College, Shimla, India between July 2014 to June 2015. The study was approved by the Institute Ethics Committee. A diagnosis of acute UGIB was based on the history of hematemesis and/or melena. Consecutive adult patients presenting with UGIB in the department of Medicine and gastroenterology were included. Patients below 18 years and In-patients developing UGIB during hospitalization were excluded from the study. After initial resuscitation, a detailed history was obtained from each patient. Clinical examination was done to look for tachycardia, postural hypotension, pallor, and stigmata of chronic liver disease. Relevant blood radiological investigations were done in all patients. All patients were managed individually with standard medical therapy. Transfusion of blood and blood products were done whenever necessary. Upper GI

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Table 1: The demographic, clinical and laboratory parameters of elderly and non-elderly patients

Parameters	<60 Years N=254	≥60 years N=126	p
Demographic Profiles			
Age, mean (SD)	42.1 (15.6)	67.3 (5.5)	<0.01
Male, n(%)	197 (77.5%)	101 (80.1%)	0.78
Co-morbidity			
Diabetes Mellitus, n (%)	12 (04.7%)	30 (23.8%)	<0.01
Hypertension, n (%)	06 (02.3%)	31 ((24.6%)	<0.01
COPD, n(%)	03 (01.8%)	07 (05.5%)	0.01
Cardiovascular Diseases, n (%)	08 (03.1%)	26 (20.6%)	<0.01
Chronic Kidney Disease, n (%)	03 (01.8%)	07 (05.5%)	0.01
Chronic Liver Disease	90 (35.4%)	23 (18.2%)	<0.01
History of alcohol and drugs			
Alcohol consumption, n(%)	90 (35.4%)	30 (23.8%)	<0.01
NSAID	80 (31.4%)	62 (49.2%)	<0.01
Oral anticoagulant	06(2.3%)	22 (17.4%)	<0.01
Presentation			
Hematemesis+Malena, n(%)	134 (552.7%)	79 (62.6%)	0.06
Isolated Malena, n(%)	47 (18.1%)	29 (23.0%)	0.30
Hematochezia, n(%)	05 (1.9%)	08 (29.3%)	<0.01
Tachycardia, n(%)	51 (20.0%)	86 (68.2)	<0.01
Postural hypotension, n(%)	38 (14.9%)	37 (29.3)	<0.01
Pallor, n (%)	131 (51.5%)	88 (69.8%)	<0.01
Splenomegaly, n (%)	24 (9.4%)	13 (10.3)	0.78
Laboratory Investigations			
Hemoglobin, n(SD) g/dL	9.2 (2.4)	8.2 (2.4)	<0.01
Serum Creatinine, n(SD) mg/dL	0.9 (0.5)	1.03 (0.5)	0.50
Total Bilirubin, n(SD) mg/dL	2.1 (1.02)	1.05 (0.7)	<0.01
ALT, n (SD) IU/L	35.3 (23.6)	29.1 (21.2)	0.01
AST, n(SD) IU/L	61.4 (53.0)	49.2 (38.0%)	0.01
Serum Albumin, n(SD) gm%	3.1 (0.5)	3.2 (0.5)	0.50

endoscopy (UGIE) was done within 24 hours and endoscopic intervention was done as deemed appropriate. The data on clinical profiles, laboratory reports, transfused blood/blood product, endoscopic findings and intervention, and subsequent outcome were collected prospectively for the purpose of analysis. For comparison of data, patients were categorized into two categories: elderly (≥60 years) and non-elderly (<60 years).

Statistical Analysis

Normally distributed continuous variables were expressed as mean (SD) and the continuous variables with skewed distribution were expressed as median (range). Categorical data was presented as proportions. Comparisons were done using t test for continuous variables and the chi square test or Fishers test for discrete variables, wherever applicable. Data were analyzed by using SPSS software version 23.0 (SPSS, Chicago, IL, USA). A p value of <0.05 was taken as significant.

Results

During study period, 380 adult patients were presented with UGIB. The mean age (SD) of the patients was 50.03(15.5) years and the majority (78.4%) were male. Out of 380 patients, 254(66.84%) patients were of less than 60 years of age and 126 (33.15%) patients were 60 years or more of age. The demographic, clinical and laboratory parameters of elderly and non-elderly patients are depicted in Table 1. As expected, the proportion of patients with co-morbidity and consumption of non-steroidal anti-inflammatory drugs or oral anti-coagulants were higher among elderly group of patients.

The commonest mode of presentation was hematemesis and melena in the both groups, while the presentation as isolated hematochezia (29% vs. 1.9%, p<0.05) were more common in elderly group than in non-elderly group. The proportion of patients with tachycardia (68.2% vs. 20%, p<0.05) and postural hypotension (29.3% vs. 14.9%, p<0.05) was significantly higher among elderly group as compared to non-elderly group.

All patients underwent endoscopy out of which, among elderly group, 23 (18.2%) patients had variceal bleeding and 123 (81.8%) patients had non-variceal bleeding. The corresponding proportions were 97 (38.1%) and 157 (61.9%) patients among non-elderly group. Thus, variceal bleeding was significantly higher among non-elderly group (38.1% vs. 18.2%, p<0.05). The proportion of patients with large (grade III-IV) esophageal varices (91% vs. 88%) and gastric varices (6.5% vs. 5.1%) were similar between elderly and non-elderly group. Successful initial hemostasis was achieved in all patients both group using endotherapy along with medical management. Rebleeding occurred in 8.8% and 10% of patients in elderly and non-elderly group (Table 2), respectively, the difference was statistically insignificant. None of the patients with variceal bleeding required surgical therapy. Bleeding from gastric or duodenal ulcer was the predominant cause of bleeding among elderly group of patients (65% vs. 43%, p<0.05). Nine patients from elderly and 12 patients from non-elderly group developed rebleeding from duodenal or pre-pyloric ulcer, and one patient from each group required surgical therapy after failed repeat endotherapy.

Rockall score >2 was present in 29.3% patients of elderly group than 14.9% patients of non-elderly group (p<0.05). The requirement of blood transfusion 4 or more units was higher among patients of elderly group than in non-elderly group (20.2% vs. 10.1%, p<0.05). In this study, the mortality rate was 4.73% (n=18)) patients, of which 10.32% (n=13) patients were over the age of 60 years and 1.94% (n=05) patients were less than 60 years (p<0.05).

Discussion

The approach towards managing acute UGIB in elderly patients needs special consideration because these patients may have atypical presentation and high mortality rates. In elderly patients, the history of UGIB may be clouded or complicated by presence of cognitive, auditory and visual, impairment. The presences of co-morbidities and medications that may aggravate bleeding tendency further complicate the problems. Our study unequivocally found that the severity and overall mortality rate of UGIB in elderly subjects were significantly higher than that in non-elderly ones.

Table 2: Etiology, severity and outcome of UGIB in both groups

Parameters	<60 Years N=254	≥60 years N=126	p
Endoscopic findings			
Esophageal varices, n(%)	97 (38.1%)	23 (18.2%)	<0.01
Gastric ulcer, n(%)	30 (11.8%)	24 (19.0%)	0.05
Duodenal ulcer, n(%)	81 (31.8%)	58 (46.0%)	<0.01
Erosive mucosal disease, n(%)	30 (11.8%)	16 (12.6%)	0.87
Mallory weiss tear, n(%)	10 (03.9%)	01 (0.79%)	<0.01
Esophageal ulcer, n(%)	06 (2.3%)	04 (3.1%)	0.64
Severity and outcome			
Postural hypotension, n(%)	38 (14.9%)	37 (29.3)	<0.01
RocKall score* >2	38 (14.9%)	37 (29.3%)	<0.01
Blood transfusion ≥4 units, n(%)	10 (10.1%)	14 (20.4%)	<0.01
Death, n(%)	05 (1.9%)	13 (10.3%)	<0.01

In our study, patients over 60 years of age constituted around 33% of the total population with acute UGIB. In previous studies too, about 35% to 45% of all patients presented with acute UGIB were over 60 years old.[4,12,13] The prevalence of peptic ulcer related bleeding was higher among elderly population compared to the younger ones. This may be due to less frequent use of NSAID and frequent eradication of H pylori infection in young patients.[14] Half of our elderly patients had history of NSAID consumption. Notably, the risk of NSAID induced peptic ulcer bleeding is nearly 4 times higher in older patients compared to young patients.[15] The variceal bleeding was less common in elderly group. The severity of UGIB in terms of tachycardia, postural hypotension, units of blood transfusion requirement was significantly higher among elderly group in comparison to non-elderly group. Rebleeding rate in our study was around 18% and it was similar between two groups. Most of recurrent bleeders were having high-risk gastric or duodenal ulcer (Forrest Class 1a/1b) or large esophageal varices. In the literature, rebleeding rates have been reported to occur in 20-30% of patients.[16,17]

Age has been found to be an independent risk factor for poor clinical outcome in patients with acute UGIB. The Mortality rates among patients aged over 60 years vary from 12% to 35%, while the corresponding rate for patients younger than 60 years of age is <10%.[18-20] In our study, mortality rate among elderly patients was 10.32% patients and in those with age <60 years was 1.94% (p<0.05). The majority of elderly patients who died had co-morbid illness. It appears that co-morbid illness, and not the bleeding per se, is directly related to increased mortality among elderly patients.

In conclusion, nearly 33% of the patients with acute UGIB were over 60 years old. Bleeding from gastric or duodenal ulcer was the predominant cause of bleeding among elderly group. Severity of bleeding in elderly was higher than in younger patients. The majority of these patients could be treated medically by a combination of drugs and endoscopic therapy. Despite similar re-bleeding rates, mortality rate was significantly higher in elderly patients compared to the non-elderly patients.

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