Original Article

Prevalence of Peptic Ulcer in Patients of Liver Cirrhosis Presenting With Upper Gi Bleed

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Abstract

Background: Although major cause of upper GI bleeding in patients of liver cirrhosis is variceal. However, a significant proportion of such patients also present with non-variceal bleeding (NVB).

AIM: The aim of this study was to determine the frequency of peptic ulcer in patients with liver cirrhosis presenting with upper GI bleeding.

Methods: This descriptive cross-sectional study was conducted in Gastroenterology section of medicine department at Benazir Bhutto Hospital from April 2017 to December 2018. Patients with liver cirrhosis presenting with upper GI bleeding were enrolled in the study through non-probability consecutive sampling. Upper GI endoscopy was performed in all patients by an experiencd gastroenterologist and findings were documented on a standardizedperforma.

Results: 672 patients were included in the study with mean age of 54.7 ±11.2. Among these, 370 (55.1%) were male and 302 (44.9%) were female. 92 patients (13.1%) had peptic ulcer as cause of upper GI bleeding. 112 patients (16.6%) had both peptic ulcer and varices as a cause of upper GI bleeding and endoscopic findings of the remaining 46 patients (69.6 %) showed varices (esophageal + gastric) as the prime source of bleeding.

Conclusions: In this study, peptic ulcer alone accounted for 13.1 % of all cases of upper GI bleeding.

Keywords: Peptic Ulcer, Variceal bleeding, Upper GI bleeding, Cirrhosis.

Introduction

Upper gastrointestinal hemorrhage is an important cause of admission in patients with liver cirrhosis. It carries significant morbidity and mortality. Mortality rates secondary to upper GI bleeding has been reported as 4 to 15 %. [1]. Upper GI bleeding is defined as bleeding from the gastrointestinal tract proximal to the ligament of Treitz.[2] Upper gastrointestinal bleeding can be classified in two main groups: variceal and non-variceal[3].

Worldwide, the most common cause of upper GI bleeding is peptic ulcer disease followed by varices. Other causes encompass a variety of conditions ranging from esophagitis, gastritis, Mallory Weiss tear, c malignancies and portal hypertensive gastropathy.[4]

Liver cirrhosis secondary to hepatitis B and C infection as well as alcoholic liver disease is a common entity with increasing prevalence .[5]

Varices account for 60-65% of cases of upper GI bleeding in cirrhotic patients.[7]

However, a significant proportion of patients with liver cirrhosis present with non-variceal upper GI bleeding, a major cause of which is peptic ulcer disease. Approximately 30-40 % of cirrhotic patients can present with a non-variceal cause of bleeding. [8]

The cause of upper GI bleeding is evaluated by upper GI endoscopy, which has both diagnostic and therapeutic value 10

The rationale of this study was to determine the frequency of peptic ulcer in patients with liver cirrhosis presenting with upper GI bleeding.

Material and Methods

This descriptive cross-sectional study was conducted by Gastroenterology section of medicine department at Benazir Bhutto Hospital Patients were included in this study through a non-probability consecutive sampling technique after obtaining informed consent. All the patients with liver cirrhosis, age >18 years, presenting in the Emergency Department were included in this study. Child Pugh class was calculated prior to endoscopy. Patients with UGI bleeding secondary to Mallory Weiss tear, gastritis, erosions,, portal hypertensive gastropathy, GI malignancy, and patients on anticoagulant therapy were excluded from study. Patients with a bleeding history and prior GI tract surgery were also excluded.

Endoscopy of all enrolled patients was performed by an experienced gastroenterologist and findings were documented on designed Performa. Patients with peptic ulcer and varies as cause of UGI bleed were identified and data were entered and analyzed by SPSS 21. A p value of <0.05 was considered statistically significant.

Result

672 patients were evaluated for cause of UGI bleeding. Age ranged from 23 to 90 years, with a mean of 54.7 ± 11.2. Males were predominant in the study population. 370 patients were male which accounted for 55.1%. 222 (33%) were Child Pugh A, 294 (43.8%) were Child Pugh Class B, and the remaining 156 (23.2%) were from Child Pugh C. The majority (73.2%) underwent endoscopy within 24 hours of presentation, while delayed endoscopy was done in 26.8%.

Endoscopic findings were documented as peptic ulcer, varies (grade 1,2 or 3) or both. 92 patients were found to have peptic ulcer as the sole cause of bleeding (13.1%) Peptic ulcers and varies in combination were found in 112 patients (16.6%) and the rest had varies (69.6 %, 468/672). The frequency of peptic ulcer was 21.6% in Child Pugh Class A, 12.2% in Child Pugh Class B and 5.12 % in Child Pugh Class C. Among all patients with varies 33.6% had grade 1 varies, 41.9% has grade 2 varies and 8% had grade 3 varies. In patients with both peptic ulcer and varietal bleeding, high risk varies accounted for 64%, whereas remaining 36% were actively bleeding from ulcers at the time of endoscopy.

P value for peptic ulcer was 0.004 and for varietal bleed was 0.037**.** P value of <0.05 was considered statistically significant .

Table1. Frequency of peptic ulcers according to Child Pugh Class.

CHILD PUGH CLASS	PEPTIC ULCER		TOTAL	P-Value*
	YES	NO		
A	48 (21.6%)	174	222	
B	36 (12.2%)	258	294	0.004
C	8 (5.12%)	148	156	
TOTAL	92	580	672	

Table 2: Frequency of varices according to Child Pugh Class.

CHILD PUGH CLASS	VARICEAL BLEED NO	GRADE 1 VARICES	GRADE 2 VARICES	GRADE 3 VARICES	P-Value*
A	48	70	90	14	
B	36	110	130	18	0.037
C	8	64	62	22	
TOTAL	92	244	282	54	

*One way ANOVA

Table3. Frequency of both peptic ulcer plus variceal bleed according to Child Pugh Class

CHILD PUGH CLASS	PEPTIC ULCER + VARICEAL BLEED YES	NO	Total	P value
A	12	210	222	
B	60	234	294	0.000
C	40	116	156	

112	560	672

Discussion

Upper gastrointestinal bleeding remains an important cause of hospital admissions in cirrhotic patients. Causes of UGI bleeding can be classified into vertical and non- varietal. Varietal bleeding is due to gastro-esophageal varies whereas non-varietal bleeding includes gastritis, esophagitis, duodenitis, Mallory Weiss tears, gastric antral vascular ectasia and peptic ulcer disease which is the most common cause.[11]

Studies have shown that varices are a significant contribution to GI hemorrhage in liver cirrhosis (refs). D'Amico showed varies to be the cause of bleeding in 72% of cases[12], whereas Seo *et al*, concluded it was 77.7%[13]. Svoboda *et al* reported varices to account for up to 62.8% in cirrhotic patient's bleeding.[14] In other studies of varying sample sizes, Fassio,[15] Gostout[16] and Odelowo et al[17], the frequency of varices was found to be 52.5%, 47.3% and 50% respectively. A large scale study by Romcea found variceal hemorrhage in 73% .[18]Local data also support varices as the leading cause of UGI bleeding in cirrhotic patients as reported by Khurram M (84.6%), Pasha (53%) and Nasir et al (77%) in studies done in Pakistan. [19,20,21] Our study results (69.6%) were in accordance with the literature. Non-variceal bleeding also contributes to bleeding in a significant population of cirrhotic patients. In our study 13.1% of patients had bleeding peptic ulcer as a cause. These results are consistent with various national and international studies, 7.5%,13.3%, 13.8%, 18.2% and 14% of study populations in studies conducted by D'Amico, Seo et al, Fassio et al, Svoboba P and Gostout et al respectively.[12,13,14,15,16]. In a local study, peptic ulcers were reported to be responsible for bleeding in as much as 29.8% of the study population. [22]

In our study, the combination of varices and peptic ulcer was found in 16.6% of patients which was higher than pure peptic ulcer bleeding. High risk varices were found to be the cause of UGI hemorrhage in 64% of patients with both peptic ulcer and varices. And peptic Ulcers were evaluated to be responsible for 36% episodes of bleed in this subset of patients.

The frequency of peptic ulcers in different Child Pugh classes has not been reported adequately in literature. In our study, we concluded that the frequency of peptic ulcer bleeding was higher in patients of Child Class A, (21.6%) compared to Child Class B (12.2%) and Child class C (5.12%). Which implies that as cirrhosis progresses, the frequency of peptic ulcer bleeding tends to decrease.

The efficacy of PPIs in bleeding peptic ulcers in cirrhotic patients needs to be evaluated.

Conclusion

Variceal bleeding remains the major cause of upper GI bleeding in patients with liver cirrhosis. Peptic ulcers alone account for 13.1% cases of UGI bleeding in these patients. The use of PPIs in patients with liver cirrhosis presenting in emergency department, with UGI bleed should be individualized on the basis of local evidence, because PPIs may have significant adverse effects on patients with liver cirrhosis.

Reference

1. González-González JA, García-Compean D, Vázquez-Elizondo G, Garza-Galindo A, Jáquez-Quintana JO, Maldonado-Garza H. Nonvariceal upper gastrointestinal bleeding in patients with liver cirrhosis. Clinical features, outcomes and predictors of in-hospital mortality. A prospective study. Ann Hepatol. 2011;10:287–295.
2. Nelms DW,Pelaez CA. The acute upper Gastrointestinal bleed: Surg Clin North Am. 2018;98(5): 1047-1057.
3. Kumar R, Mills AM. Gastrointestinal bleeding. Emerg Med Clin North Am 2011;29(2):239-252.
4. Mahajan P, Chandail VS. Etiological and Endoscopic Profile of Middle Aged and Elderly Patients with Upper Gastrointestinal Bleeding in a Tertiary Care Hospital in North India: A Retrospective Analysis. J Midlife Health. 2017;8(3):137-141.
5. Setiawan VW, Stram DO, Porcel J, Lu SC, Le Marchand L, Noureddin M. Prevalence of chronic liver disease and cirrhosis by underlying cause in understudied ethnic groups: The multiethnic cohort. *Hepatology*. 2016;64(6):1969-1977.
6. Garcia-Tsao G, Bosch J. Management of varices and varicealhaemorrhage in cirrhosis. N Engl J Med. 2010;362:823–832.
7. D'Amico G, Garcia Tsao G, Cales P. Diagnosis of portal hypertension. How and when. In: DeFranchis R, editor. Portal hypertension III. Oxford: Blackwell Science Ltd. 2001:36–64.
8. Mobin A, Qureshi F, Kumar D, Haroon H, Jabeen R. Chronic liver disease; frequency of non variceal upper gastrointestinal bleeding in the patients. The professional Medical Journal. 2011;23:204-208.
9. Lodato F, Azzaroli F, Di Girolamo M, Feletti V, Cecinato P, Lisotti A, et al. Proton pump inhibitors in cirrhosis: tradition or evidence based practice? World J Gastroenterol. 2008; 21 (14): 2980-2985.
10. Yoo JJ, Chang Y, Cho EJ, et al. Timing of upper gastrointestinal endoscopy does not influence short-term outcomes in patients with acute variceal bleeding. World J Gastroenterol. 2018;24(44):5025-5033.

11. Bhattarai S, Dewan KR, Shrestha G, Patowary BS. Spectrum of upper gastrointestinal bleed in patients with cirrhosis of liver. Journal of College of Medical Sciences-Nepal. 2017 Oct 19;13(3):318-22.
12. D'Amico G, De Franchis R. Upper digestive bleeding in cirrhosis. Post-therapeutic outcome and prognostic indicators. Hepatology. 2003;38:599-661.
13. Seo YS, Kim YH, Ahn SH, Yu SK, BaikSK, Choi SK, et al. Clinical features and treatment outcomes of upper gastrointestinal bleeding in patiens with cirrhosis. J Korean Med Sci. 2008;23:635-643.
14. Svoboda P, Konecny M, Martinek A, Hrabovsky V, ProchazkaV, Ehrmann J. Acute upper gastrointestinal bleeding in livercirrhosis patients. Biomed Pap Med.2012;156:266–270.
15. Fassio E, Viudez P, Landeira G, Fernández N, Lattanzi M, Luis A. Upper digestive hemorrhage in liver cirrhosis: clinical and endoscopic findings. ActaGastroenterolLatinoam 1992;22:181-6.
16. GostoutChJ, Viggiano TR, Balm RK. Acute gastrointestinal bleeding from portal hypertensive gastropathy: prevalence and clinical features. Am J Gastroenterol. 1993;88:2030-2033.
17. Odelowo OO, Smoot DT, Kim K. Upper gastrointestinal bleeding in patients with liver cirrhosis. J Natl Med Assoc. 2002;94:712-715.
18. Romcea AA, Tanțău M, Seicean A, Pascu O. The etiology of upper gastrointestinal bleeding in cirrhotic patients. Clujul Medical. 2013; 86:21-23.
19. Khurram M, Khaar HB, JavedS, Hasan Z, Arshad M, Goraya F, et al. Upper GI endoscopic evaluation of 299 patients with clinically compensated cirrhosis. Pak J Gastroenterol. 2003;17:12-16.
20. Pasha MB, Hashir MM, Pasha AK, Pasha MB, Raza AA, Fatima M. Frequency of esophageal varices in patients with upper gastrointestinal bleeding. Pak J Med Sci. 2011; 27:277–281.
21. Nasir N, Nadeem MA, Imran M, Hussain I, Chaudhry NU. Oesophageal varices vs peptic ulcer: A study of 100 patientpresenting in Mayo Hospital with upper gastrointestinal bleeding. Pakistan J Gartroenterol. 1998;12:58–63.
22. Khan AG, Khan H, Khattak AK. Upper GI endoscopic findings in cirrhotic patients presenting with upper gastrointestinal bleed.Pak J Gastroenterol. 2012;26:16–21.
23. Auroux J, LamarqueD,Roudot-Thoraval F, Deforges L, Chaumette MT, RichardetJP, et al. Gastroduodenalulcer and erosions are related to portal hypertensive gastropathy and recent alcohol intake in cirrhotic patients. Dig Dis Sci 2003; 48: 1118-1123
24. Yeomans ND. The ulcer sleuths: The search for the cause of peptic ulcers. J Gastroenterol Herpetology. 2011; 26: 35-41.
25. Bajaj JS, Zadvornova Y, Heuman DM, Hafeezullah M, Hoffmann RG, Sanyal AJ, et al. Association of proton pump inhibitor therapy with spontaneous bacterial peritonitis in cirrhotic patients with ascites.Am J Gastroenterol. 2009 ;104(5):1130-1140.