

PREVALENCE OF PEPTIC ULCER IN PATIENTS OF LIVER CIRRHOSIS PRESENTING WITH UPPER GI BLEED.

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Author's Contribution

¹ Conception of study

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Abstract

BACKGROUND: Although major cause of upper GI bleed in patients of liver cirrhosis is variceal bleed. However a significant proportion also presents with non-variceal bleeding (NVB).

AIM: The aim of study is to determine the frequency of peptic ulcers in patients of liver cirrhosis presenting with upper GI bleed.

METHODS:

This descriptive cross sectional study was conducted in Gastroenterology section of medicine department at Benazir Bhutto Hospital from April 2017 to December 2018 . 672 patients of liver cirrhosis presenting with upper GI bleed were enrolled in study through non probability consecutive sampling. Upper GI endoscopy of all patients was performed by consultant Gastroenterologist and findings were documented on standardized Performa.

RESULTS:

672 patients were included in study with mean age of 54.68 ±11.15. Among these 370 (55.1%) were males and 302 (44.9%) were females. 92 patients (13.1%) had peptic ulcer as cause of upper GI bleed. 112 patients (16.6%) had both peptic ulcer and variceal bleed as cause of Upper GI Bleed and endoscopic findings of remaining 468 patients (69.6 %) showed varices (oesophageal + gastric) as prime source of bleeding.

CONCLUSIONS: In this study, peptic ulcer accounted for 13.1 % of all cases of UGI bleeding.

Keywords: Peptic Ulcer, Variceal bleeding, Upper GI bleed, 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-variceal³.

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 value¹⁰

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 varices 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	0.004
B	36 (12.2%)	258	294	
C	8 (5.12%)	148	156	
TOTAL	92	580	672	

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

CHILD PUGH CLASS	NO	VARICEAL BLEED			P-Value*
		GRADE 1 VARICES	GRADE 2 VARICES	GRADE 3 VARICES	
A	48	70	90	14	0.037
B	36	110	130	18	
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 CLASS	PUGH CLASS	PEPTIC ULCER + VARICEAL BLEED YES	ULCER + NO	Total	P value
A		12	210	222	0.000
B		60	234	294	
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 variceal and non-variceal. Variceal bleeding is due to gastroesophageal varices whereas non-variceal 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 varices to be the cause of bleeding in 72% of cases¹², 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 Gostout¹⁶ 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*, Svoboda 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.

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