

Frequency of Peptic Ulcer Disease Increases with Severity of Cirrhosis of Liver: Experience of Tertiary Level Hospital of Dhaka

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ABSTRACT

Introduction: Cirrhosis of Liver is prevalent in Bangladesh. PUD can coexist with portal hypertension with cirrhosis.

Objectives: To identify frequency of peptic ulcer disease increases with severity of cirrhosis of liver.

Materials & Methods: Consecutive 96 patients of cirrhosis of liver had enrolled when found oesophageal varices at our endoscopy unit during endoscopic evaluations in 4 months period (August 2017 to November 2017).

Results: Total cirrhotic patients enrolled were 114 (M=75, F=39), mean age was 51.80 ± 14.20 yrs (18-86years). HBV was the leading cause of cirrhosis in 54.18%, HCV 5.22 %, proven NASH were 12.24% and rest were from unknown aetiology. Their average CTP score were 8.6 (12-5), 37.6% associated with portal hypertensive gastropathy. Grade-III oesophageal varicose found in 52 patients, whereas grade-II in 25 patients. Among this 114 patients 46 (40.62%) revealed peptic ulcer disease more in the form of gastric ulcer (n=31) than duodenal ulcer (n=10) and both (n=5). Most of the ulcers belonged to Forrest class III (76.92%).

Conclusion: Variceal bleeding and portal hypertensive gastropathy in patients with liver cirrhosis are prevalent causes

of bleeding and anaemia. One of the potential causes of haematemesis, melaena, and anaemia among these patients in Bangladesh has been discovered to be peptic ulcer illness. To verify the findings, large, multicenter-controlled trials are required.

Keywords: Peptic Ulcer Disease, Cirrhosis of Liver, Portal Hypertensive Gastropathy.

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INTRODUCTION

Bangladesh is a developing country that is regarded as a tropical nation. Liver disease is a very prevalent issue that seeks medical advice. It is the third prevalent cause of admission to hospital. A multicenter research of 59,227 patients in medical college (tertiary) hospitals revealed that 13.2% had some kind of liver issues, 37% of them had liver cirrhosis and its complications.¹ Liver disease is the third most common cause of death in medical college hospitals in Bangladesh.² There is also a prevalent gastroenterological disease of peptic ulcer disease. Peptic ulcers have commonly been noted during upper GI endoscopy in

patients with liver cirrhosis. Abnormal acid, pepsin, gastrin secretion and contribution by the altered cytoprotection are the underlying factor for increased frequency of peptic ulcer disease in patient with cirrhosis of liver.

Haematemesis and Melaena is one of the common and life threatening complications among the cirrhosis of liver patients who had portal hypertension. Haematemesis and Melaena are one of the prevalent and life-threatening complications of liver cirrhosis patients with portal hypertension. About 60 percent of patients with ascites have any degree of oesophageal varices

during the first diagnosis of cirrhosis and 40 percent without ascites.³ Once the varicose veins have evolved in liver cirrhosis, they tend to boost in size even rupture at any grade of varicose veins.⁴ Severe oesophageal varices carries a mortality rate of 7-15%.⁵⁻⁷ However, haematemesis was not always caused by ruptured oesophageal varicose veins, 48% by variceal rupture (oesophageal and gastric), 34% by peptic ulcer, 18% had inadequate source proof.⁸ Bleeding peptic ulcer disease and oesophageal varicose veins are managed differently.

The result is also variable after normal care. So in patients with liver cirrhosis with portal hypertension in the Bangladeshi population, we assessed peptic ulcer disease.

METHODS AND MATERIALS

Study Pattern: Cross sectional study.

Place of Study: Private and Government hospital, Dhaka.

Study Period: August 2017 to November 2017.

Duration: 4 months

Written approval from the hospital authority has been obtained and endorsed by the local ethical commission. Included in the research were patients diagnosed with liver cirrhosis who attended our upper GI endoscopy department and discovered oesophageal varices and gastric varices. Consecutive 114 patients who gave written informed permission were registered for the research. The research excluded patients who had the history of taking NSAID or steroids within a month and taking frequent Proton pump inhibitor for more than 2 weeks. Patient interview data gathered, physical exams and his / her associated inquiry reports. We told the patient to do so for missing inquiries and present us for a week. Data had collected and analyzed the

master sheet in a Statistical Package for Social Science (SPSS, version 20).

RESULTS

In this study male patients were 66% and female patients were 34% (Table 1).

In this study, among the patients 75 (66 %) were male, 35(34%) were female (table-1). Mean age were 51.76 ± 14.20 years (range: 18-86 years). Patients were registered for liver cirrhosis irrespective of etiology. Among the study patients of cirrhosis of liver HBV took the leading cause (54.18%) followed by unknown etiology (27.74%), NASH (12.24%) and HCV (5.22 %) [Figure-1]. To determine the severity of cirrhosis of liver Child-Pugh scoring system had been used. Average CTP score were 8.6. Forty four patients out of 114 (38.5%) patient had portal hypertensive gastropathy (mild and severe) in association with oesophageal varices. Among this 114 patients 47 patients (41.23%) revealed peptic ulcer disease more in the form of gastric ulcer (n=23) than duodenal ulcer (n=100 and both (n=6).According to Forrest classification for the activity of ulcer, most of the ulcers are belongs to Class III in 87 patients (76.32 %) followed by class IIc (18.20 %) and class IIb (5.80%) [Fig-2].Cirrhosis of liver patient with grade III oesophageal varices carries more ulcer 64.17% than grade-II and grade-I respectively 25.66%, 10.30%. In our study duodenal ulcer is more prevalent in Child A cirrhosis (12.73% VS 5.12%).Gastric ulcer is more prevalent in Child B (17.86% VS 5.13%) and in Child C (35.7 VS 7.62%) cases. Co-existing peptic ulcer disease and cirrhosis of liver patients presented commonly with peptic dyspepsia (44 %) followed by asymptomatic 38 %, upper GI bleeding in 10% and 8 % upper abdominal pain.

Table 1: Gender Distribution of the patients

Gender Distribution	Number of patients	Percentage
Male	75	66%
Female	39	34%
Total	114	100%

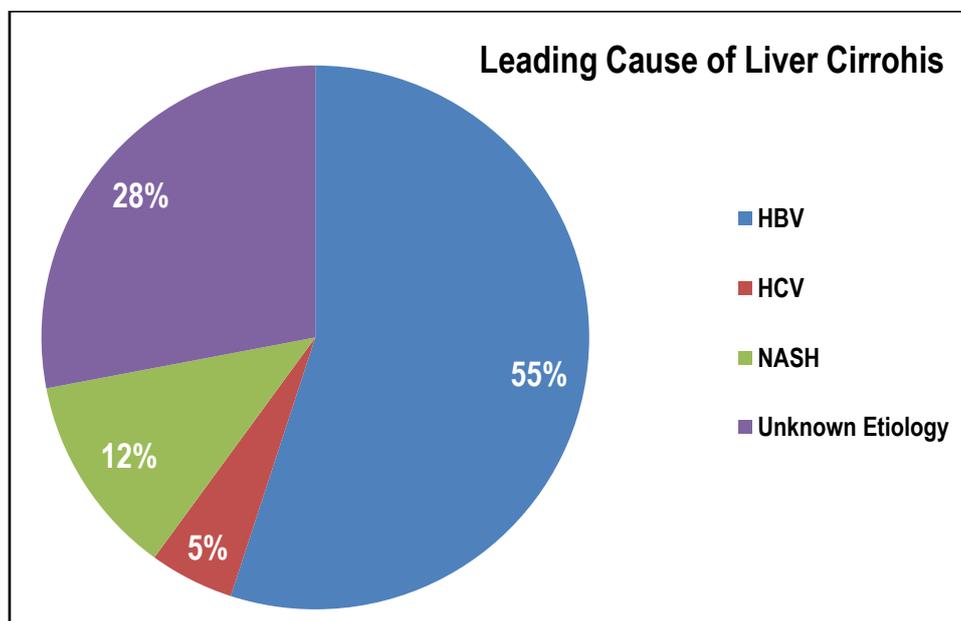


Figure 1: Leading cause of liver cirrhosis

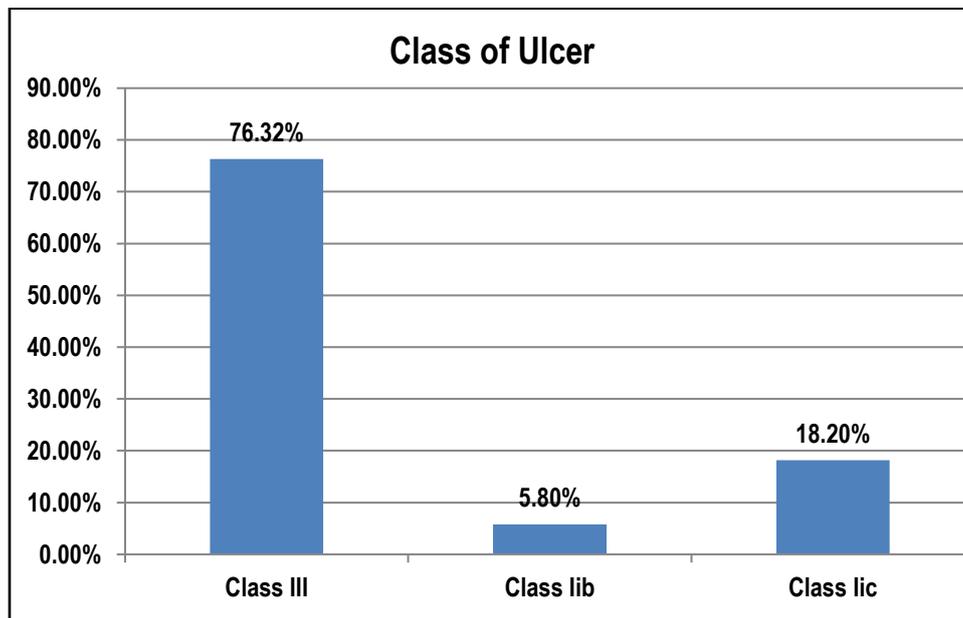


Figure 2: Class of ulcer

DISCUSSION

In this research, there are more males than females among 114 patients (66% vs 34%). In this research, HBV was caused by liver cirrhosis 54.16% followed by unidentified cause 29.16%, NASH 11.45%, HCV 5.20%. A 2014-2016 Bangabandhu Sheikh Mujib Medical University research in 770 patients found HBV to be the leading cause (49.22%) followed by NASH (14.68%) and HCV (4.02%).⁹ Peptic ulcer infection is a very prevalent illness (8-14% incidence) in patients attending medical facilities.¹⁰ The incidence of peptic ulcer illness in Bangladesh; duodenal ulcer 7.4%; stomach ulcer 3.28%; and stomach outlet obstruction as a 0.40% sequel of peptic ulcer illness.¹¹ Peptic ulcer illness in liver cirrhosis in 1980 was 14.7%.¹² In 1995 in a study of 324 patient with cirrhosis of liver reveals prevalence of peptic ulcer disease at 15.1%.¹³ Peptic ulcer illness in cirrhotic patients is more common in 2008 than those without cirrhosis (24.3%).¹⁴ It has been growing gradually in various literatures. Patients with cirrhosis of the liver are more likely to have peptic ulcer than chronic hepatitis (OR: 4.13, $p=0.03$).¹⁵ In a Taiwan-based national population study of 4013 liver cirrhosis, 8013 chronic hepatitis and 7793 ordinary controls after 7 years of follow-up have shown that cirrhotic patients are at greater danger of peptic ulcer bleeding (hazard ratio: 4.22; 95 percent CI 3.37-5.29, $P < 0.001$).¹⁶

CONCLUSION

Oesophageal varicose rupture haematemesis and peptic ulcer disease vary in various aspects. Determining the cause of bleeding sometimes becomes hard. After the first variceal haemorrhage mortality levels are 7.4% at 48 hours, while the bleeding peptic ulcer mortality rate is 5-10% at 24% in 6 weeks. So, if we determine the cause of bleeding in specific by doing an upper endoscopy of the GI as quickly as possible and take the initiative to handle it, it will be useful for the patient's results. Peptic ulcer disease is more prevalent in liver patient cirrhosis than in non-cirrhotic disease. Abnormal acid pepsin secretion and modified cytoprotection is the main player for enhanced peptic ulcer frequency in cirrhotic patients, the role of *Helicobacter pylori* that has yet to be determined. Variceal bleeding and portal

hypertensive gastropathy in patients with liver cirrhosis are prevalent causes of bleeding and anaemia. This research shows that, among these patients in Bangladesh, peptic ulcer disease is one of the potential causes of haematemesis and melaena and anaemia. A large multi-center case controlled study is needed for confirmation of the results and to determine the clinical implications.

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