

Peptic Ulcer Disease in Patients Presenting with Liver Cirrhosis

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ABSTRACT

Aim: To record the rate of peptic ulcer disease in cases presenting with liver cirrhosis.

Study Design: Observational

Place and Duration of Study: Department of Gastroenterology, Muhammad Medical College, Mir Pur Khas from 1st October 2018 to 31st March 2019.

Methods: One hundred diagnosed cases of liver cirrhosis upto 70 years of age of either gender while those taking NSAIDs, or presenting with H. Pylori, previous history of PUD and those already under treatment were excluded. All the cases were evaluated through physical examination along with recording complete history.

Results: 46(46%) were between 30-50 years of age whereas 54(54%) were between 51-70 years of age, mean±SD was calculated as 48.52±12.74 years, 61(61%) male and 39(39%) females. Frequency of peptic ulcer disease in cases presenting with cirrhosis was 24(24%).

Conclusion: Peptic ulcer disease is commonly found in patients presenting with liver cirrhosis especially with Child C stage. These patients should be treated with omeprazole infusion and additionally H. Pylori should also be tested and treated in these patients

Keywords: Liver cirrhosis, peptic ulcer disease, diagnosis

INTRODUCTION

Globally, cirrhosis in liver is a commonest health issue¹. Developing countries, like ours are significantly more prone than developed countries. This increase in our society may be due to rise in Hepatitis B and C viruses² unlike western countries, where alcohol is the main etiological factor of liver cirrhosis³.

Peptic ulcer also known as peptic ulcer disease, it is the ulcer of the area of gastrointestinal tract. It may be termed as mucosal erosions more than or equal to 0.5 centimeter. It is commonly found in cases with liver cirrhosis and estimated in 8-30% of the cases⁴⁻⁷.

The association of liver cirrhosis and peptic ulcer has been reported extensively in previous studies where the incidence is varying widely⁴⁻⁷ and this association is found to be a challenging issue. These cases may have a greater risk of bleeding because of thrombocytopenia and coagulation dysfunction, conditions that are commonly recorded in these cases^{6,7}.

Nonsteroidal anti-inflammatory drugs (NSAIDs) and Helicobacter pylori account for a vast majority of patients with peptic ulcer disease (PUD) in Australia, Europe, Asia and some areas in United States. Though, various studies reveal that the frequency of H. pylori infection is < 75% in cases presenting with duodenal ulcer were not correlated with the use of NSAIDs. A previous study, excluded the use of NSAID, 61% of duodenal ulcers (DU) and 63% of gastric ulcers (GU) has positive findings of H. pylori.⁸ Whereas only 52% of whites with duodenal ulcers (DU) had positive findings of H. pylori as compared to with 85% of nonwhites, which underscores the significance of demographics.

However, focusing on a significant variation in local data regarding frequency of peptic ulcer disease in liver

cirrhosis cases, we intend to record the rate of PUD in our population presenting with liver cirrhosis, so that variation in local studies may be clarified.

MATERIAL AND METHODS

In this observational study, we included 100 diagnosed cases of liver cirrhosis upto 70 years of age of either gender while those taking NSAIDs, or presenting with H. Pylori, previous history of PUD and those already under treatment were excluded. This study was conducted from from 1st October 2018 to 31st March 2019 at Department of Gastroenterology, Muhammad Medical College, Mir Pur Khas. All the cases were evaluated through physical examination e.g. epigastric tenderness, right upper quadrant tenderness. We followed the cases for endoscopy by completing all desired formalities of endoscopic procedure and examined the presence of a peptic ulcer i.e. (the ulcer of an area of the gastrointestinal tract) with mucosal erosions ≥ 0.5 cm. We recorded presence/absence of peptic ulcer disease on a pre-designed proforma and necessary statistical test i.e. Chi square test was applied and analyze the magnitude.

RESULTS

In our study, 46(46%) were between 30-50 years of age whereas 54(54%) were between 51-70 years of age, mean±SD was calculated as 48.52±12.74 years (Table 1) Gender distribution shows 61(61%) male and 39(39%) were females (Table 2). Frequency of peptic ulcer disease in cases presenting with cirrhosis was 24(24%) whereas 76(76%) had no peptic ulcer disease (Table 3). We stratify the data according to child pugh class, where it was significantly higher in class C (Table 4)

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Table 1: Age distribution (n=100)

Age (years)	No.	%
30-50	46	46.0
51-70	54	54.0

Table 2: Gender distribution (n=100)

Gender	No.	%
Male	61	61.0
Female	39	39.0

Table 3: Peptic ulcer disease in cirrhotic patients (n=100)

Peptic ulcer disease	No.	%
Yes	24	24.0
No	76	76.0

Table 4: Stratification of PUD according to child Pugh class

Child pugh class	PUD (n=24)		P value
	Yes	No	
A	Yes	3	0.42
	No	21	
B	Yes	6	0.06
	No	18	
C	Yes	15	0.01
	No	9	

DISCUSSION

It has been observed in various studies that peptic ulcer is commonly present in cases suffering with liver cirrhosis. The aim of this study was to record the frequency of peptic ulcer in cases presenting with liver cirrhosis in our population. The statistics record in our study shows that 46(46%) were between 30-50 years of age whereas 54(54%) were between 51-70 years of age, mean±sd was calculated as 48.52±12.74 years, 61(61%) male and 39(39%) females. Frequency of peptic ulcer disease in cases presenting with cirrhosis was 24(24%).

A local study⁷ recorded presence of peptic ulcer disease in 15% of the cases which is lower than recorded in our study.

Another study⁸ at Peshawar found 37% of the cases having peptic ulcer disease presenting with liver cirrhosis, which is higher than our study.

Siringo and others⁹ recorded 6.3% cases with peptic ulcer out of which 77.5% were asymptomatic, this study was published in 1997 which shows that this disease progressed with the passing of time. However, a significant findings in this study were asymptomatic ulcers which is an alarming situation and clarifies to diagnose liver cirrhosis cases on early stage for peptic ulcer disease also.

In cirrhotic cases, changes occur in gastric microcirculation like higher number of straight arterioles and dilated precapillaries and veins. These changes might contribute to putative acid peptic lesions.¹⁰⁻¹¹

Hypercatabolic state in cirrhotic sufferers may be another potential risk factor responsible for peptic ulcer disease. This conditions is more commonly found in cases with severe disease.^{12,13}

Environmental factors e.g. nicotine and alcohol may inhibit or decrease mucus secretion and bicarbonate while increases acid secretion.¹⁴ The same were not the part of our study being the limitation of our study due to not adequate data availability from the patients. Previously, the

detection of H. pylori and ulcers correlated with the higher use of NSAIDs contributed to a superior understanding of the events correlated to the origins of peptic ulcers.¹⁵

In spite of being antiquity disease, few studies reveal that diet therapy may be effective to control peptic ulcer disease. However, by knowing a higher frequency of this disease in liver cirrhosis, its early detection and management is necessary and requires special attention and awareness in cirrhotic cases.

The findings of our study are based on single medical center and another limitation of our study which may be validated by adding the data of other medical centers in this region in coming trials.

CONCLUSION

There is a high prevalence of PUD in patients of liver cirrhosis. So in patients of liver cirrhosis presenting with UGIB, PUD should be suspected and needs to be treated with omeprazole infusion especially patients with Child C cirrhosis. Additionally these patients should be tested and treated for H. Pylori infection.

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