

ORIGINAL ARTICLE

Frequency and Characteristic of Portal Hypertensive Gastropathy in Liver Cirrhosis Patients

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ABSTRACT

Introduction: Portal hypertensive gastropathy is a term applied to the typical appearance of the mucosa of stomach consisting of a mosaic-like diffuse and reticular cobblestone pattern of gastric mucosal layer secondary to increased blood pressure in the portal vein.

Objective: To determine the occurrence and characteristic of portal hypertensive gastropathy in patients with liver cirrhosis

Methodology: This study was descriptive cross-sectional piloted at the department of Medicine, Hayatabad medical complex Peshawar for duration of six months from November 2020 to May 2021. A total of 158 patients were observed in our study. All the data was entered and analyzed in SPSS version 21.

Results: In our study portal Hypertensive Gastropathy was observed in 34(21.5%) cirrhosis patients while it was not observed in 124(78.5%) patients. Based on the class of portal hypertensive gastropathy, severe and mild types were observed in 43(27.2%) and 115(72.8%) patients respectively.

Conclusion: In our study portal hypertensive gastropathy was observed in 34(21.5%) cirrhotic patients, amongst these 27.2% were severe and 72.8% were mild types. In cirrhotic and portal hypertensive gastropathy patients, these findings might have major therapeutic implications.

Keywords: Frequency; Portal Hypertensive Gastropathy, Liver cirrhosis

INTRODUCTION

Portal hypertensive gastropathy is a term applied to the typical appearance of the mucosa of stomach consisting of a mosaic-like diffuse and reticular cobblestone pattern of gastric mucosal layer secondary to increased blood pressure in the portal vein¹. In liver cirrhosis patients, the most common complication is Portal hypertensive gastropathy. It is believed that in cirrhotic patients, portal hypertension is a common basis of insidious or acute gastrointestinal bleeding. Portal hypertensive gastropathy has evolved as a novel entity with numerous catastrophic consequences of chronic liver disease during the past twenty years². In liver cirrhosis patients, portal hypertensive gastropathy is a common but unappreciated source of morbidity. Portal hypertensive gastropathy may affect people of any age, i.e occur both in children and adults. The prevalence of portal hypertensive gastropathy has been observed in the range of 20% to 75% in portal hypertensive patients and ranges from 35% to 80% in cirrhotic patients³. In cirrhotic patients gastrointestinal bleeding is responsible for up to 25% of total mortality⁴.

Other variables, such as thrombocytopenia or splenomegaly, which are linked with higher severity of portal hypertension gastropathy, might play a role in the pathophysiology of portal hypertensive gastropathy. In individuals with chronic liver illness, additional variables such as increase in thickness of the lesser omentum and the development of a splenorenal shunt were shown to be associated with portal hypertensive gastropathy⁵. The patho-physiology of portal hypertensive gastropathy is still a mystery, and its natural history and therapy need to be

improved, despite the fact that histological, endoscopic and hemodynamic characteristic of the mucosa have been thoroughly examined⁶.

Portal hypertensive gastropathy is classified as mild and severe type⁷. EGD (Esophagogastroduodenoscopy) is the gold standard for the diagnosis of portal hypertensive gastropathy⁸. Sacchetti et al. showed frequency of portal hypertensive gastropathy in cirrhotic Patients as 27% in which 20% cases were severe and 7% only were mild⁹. Another study showed that 61% of cirrhosis patient were having portal hypertensive gastropathy¹⁰. Similarly Cates et al showed portal hypertensive gastropathy to be present in 98% of cirrhosis patients¹¹.

The current research is designed to find out the occurrence of portal hypertensive gastropathy in liver cirrhosis patients in our population. Moreover, this type of study has not been conducted in our population and this study will be helpful for providing baseline statistics for future studies.

MATERIALS AND METHODS

This study was descriptive cross-sectional piloted at the department of Medicine, Hayatabad medical complex Peshawar for duration of six months from November 2020 to May 2021. The criteria for inclusion in our study include cirrhotic patients of both the gender having age > 18 years and confirmed by abdominal ultrasound. The criteria for exclusion in our study includes patients with treatment on nitrates or beta-blockers, patients with multifocal hepatocellular carcinoma, patients unfit/not willing for esophagogastroduodenoscopy (EGD) and patients with

non-cirrhotic portal hypertension. After approval of the synopsis all the patients with cirrhosis presenting to department of medicine were included in the study after taking informed consent from them. A total of 158 patients were observed in our study. They were examined & history was taken. All the routine investigations & investigations necessary prior to endoscopy were done. Abdominal Ultrasound was done for each patient for confirmation of liver cirrhosis & portal hypertension. They all undergo screening esophago-gastroduodenoscopy (EGD) for diagnosis of PHG. All the endoscopies were performed by a consultant physician having experience in endoscopy. All the demographic data, clinical findings, ultrasound findings & endoscopy findings were recorded on a proforma. Data were entered using SPSS version 21.0. Categorical variables like gender, PHG, type of PHG (mild or severe) were described as frequencies and percentages. Quantitative variables like age, duration of liver disease & portal vein diameter were described as Mean + Standard deviation.

RESULTS

On the basis of age wise distribution, among 158 patients, 13(8.2%) patients were in age group 18-30 years, 43(27.2%) in age group 31-40 years, 55(34.8%) in age group 41-50 years while 47(29.7%) patients were observed in age group 51-60 years. The mean age was 49.56 years with standard deviation ± 3.357 . (Figure 1) Based on gender wise distribution, among 158 patients, there were 43(27.2%) males while 115(72.8%) were female patients. (Figure 2) In our study portal hypertensive gastropathy was observed in 34(21.5%) Cirrhosis Patients while it was not observed in 124(78.5%) patients. (Figure 3) Based on the class of portal hypertensive gastropathy, severe and mild types were observed in 43(27.2%) and 115(72.8%) patients respectively. (Figure 4)

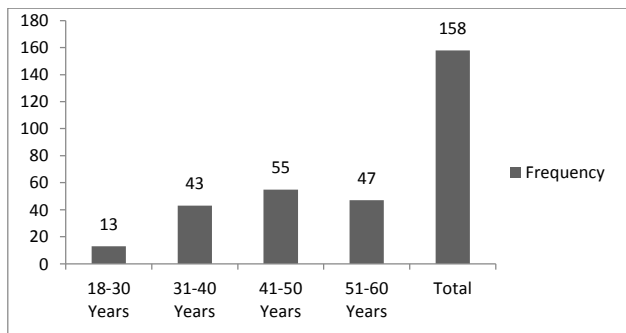


Figure 1: age wise distribution of patients

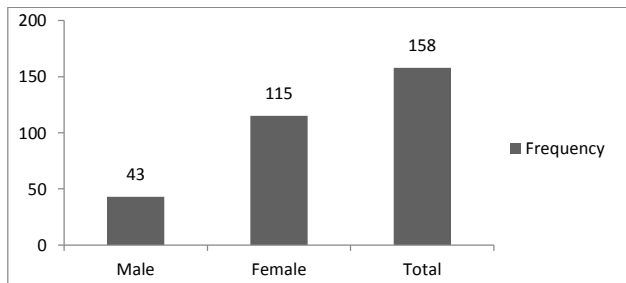


Figure 2: Gender wise distribution of patients

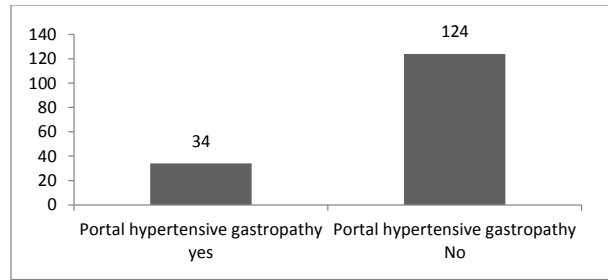


Figure 3: portal hypertensive gastropathy in cirrhosis patients

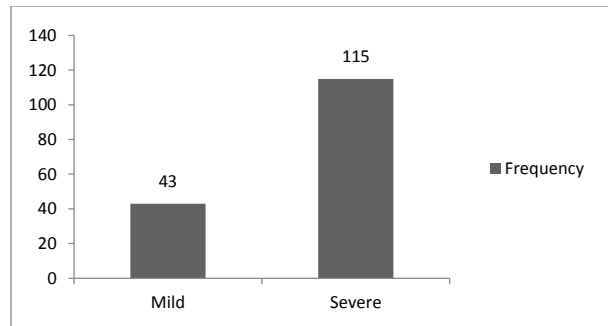


Figure 4: class of portal hypertensive gastropathy

DISCUSSION

Recently, portal hypertensive gastropathy has been identified as a significant consequence of cirrhotic portal hypertensive patients. Patients with more severe liver disease and cirrhosis, who have undergone prior endoscopic variceal ligation or endoscopic sclerotherapy are more likely to develop it ^{1, 9-11}. In our study portal hypertensive gastropathy was observed in 34(21.5%) Cirrhosis Patients while it was not observed in 124(78.5%) patients. In line with our findings, other previous studies also reported comparable results ^{12, 13}. The association among hepatic functional status and the development of PHG has been contested, and there is no clear agreement on the subject ¹⁴. Portal hypertensive gastropathy may affect people of any age, whether they are children or adults. The prevalence of Portal hypertensive gastropathy in cirrhotic patients varies and has been reported in the range of 16 -100% in the literature ¹⁵. In our study, based on the class of portal hypertensive gastropathy, severe and mild types were observed in 43(27.2%) and 115(72.8%) patients respectively. In accordance with our study, a previous study done by Gupta et al. reported 61 % prevalence of PHG, amongst which mild and severe types were 85% and 15% respectively ¹⁶. No consistent data is available about the association of portal hypertension (PHTN) and PHG. There are numerous studies that associate the PHG and esophageal varices. These studies show significant correlation of PHG and esophageal varices ¹⁷⁻¹⁹. On the other hand, numerous studies reported no significant correlation of PHG and esophageal varices ^{16, 20}.

The differences in the study outcomes might be attributed to a variety of variables. Difference across observers might occur during EGD. Furthermore, there are numerous categorization systems for classifying the PHG severity, and various studies have utilized different

systems. The majority of the studies included a diverse group of CLD (Chronic liver disease) patients, while others included patients with non-cirrhotic portal hypertension. Researchers have shown that the severity of PHG is influenced by factors such as illness duration, treatment with beta-blockers and variceal ligation^{16, 17}. The study's limitations include the use of a single centre with a diverse group of patients and the absence of a liver and stomach mucosal biopsy. However, the fact that this is the first research among Pakistani CLD patients to identify the prevalence of PHG is the major strength of our study.

CONCLUSION

In our study portal hypertensive gastropathy was observed in 34(21.5%) cirrhotic patients, amongst these 27.2% were severe and 72.8% were mild types. In cirrhotic and portal hypertensive gastropathy patients, these findings might have major therapeutic implications.

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