

Frequency of Rectal Varices in patients with Portal Hypertension Secondary to Cirrhosis

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ABSTRACT

Aim: To determine the frequency of rectal varices in patients with portal hypertension secondary to cirrhosis of liver.

Study design: Cross-sectional observational survey.

Place and duration: Department of Gastroenterology and hepatology, Medical Unit-III, Services Hospital, Lahore. Study was carried from April 2013 to October 2013.

Methods: A total of 150 patients were studied in this study. Selected patients were admitted and booked for sigmoidoscopy after proper preparation at a later date and presence or absence of rectal varices were documented.

Results: Majority of the patients were between 31-50 years and minimum patients were 20-30 years old. Mean age of the patients was 42.45 ± 9.74 year. Regarding gender distribution, 96 patients (64%) were male while remaining 54 patients (36%) were female Rectal varices in patients with portal hypertension secondary to cirrhosis of liver were present in 84(56%).

Conclusion: Rectal varices are common in patients with portal hypertension. In patients with portal hypertension, with lower GI bleeding, the possibility of rectal varices should be considered.

Keywords: Rectal varices, Cirrhosis, Portal hypertension

INTRODUCTION

Liver cirrhosis is the end result of hepatocellular injury that leads to both fibrosis and nodular regeneration¹. Portal hypertension, a major complication of cirrhosis, develops in 42% of cirrhotic patients². Portal hypertension results with the pathologic increase in the portal venous pressure gradient between the portal vein and the inferior vena cava³. It manifests as ascites, edema, esophageal varices and rectal varices.

Varices form only when the hepatic vein portal gradient exceeds 10mmHg and bleed when this exceeds 12mm Hg⁴. These can occur anywhere in the gastrointestinal tract, but occur most commonly at the cardio-esophageal junction. Collaterals developing at other sites have been broadly termed as ectopic varices⁵.

The prevalence of colonic varices and rectal varices has been found to be 34% to 46% and 10% to 40%, respectively in patients with cirrhosis undergoing colonoscopy⁶.

Although much research work has been done on the upper gastrointestinal complications of portal hypertension, the data on lower gastrointestinal complications of portal hypertension is less. Rectal varices are an

infrequent but potentially serious cause of hematochezia⁷.

The diagnosis of rectal varices could be missed and can sometimes be fatal. These are thought to be one of the important causes of lower gastrointestinal haemorrhage. In a study, sigmoidoscopic findings revealed that rectal varices were present in 59.5% of patients with esophageal varices [8].

Rationale of present study is to know the frequency of rectal varices. In our routine clinical practice it has not been routine to screen patients for rectal varices and no recent local studies are available in this regard. With the advent of newer techniques of treatment of rectal varices, we now are in better position to control and eradicate rectal varices.

If the frequency of rectal varices is found in significant percentage of patients, recommendation can be made to screen every patient of cirrhosis with portal hypertension for rectal varices, which is potentially controllable and curable cause of bleeding in such patients.

MATERIAL AND METHODS

The study was carried out in Department of Gastroenterology and hepatology, Medical Unit-III, Services Hospital, Lahore. 150 patients were enrolled in the study. Inclusion criteria included

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patients of age 18-60 years of either gender having coarse echotexture of liver on abdominal ultrasonography and having portal vein diameter more than 10mm on abdominal ultrasonography. Exclusion criteria included patients with total colectomy, patients having hepatic malignancy, fulminant hepatic failure or hepatic encephalopathy grad-IV patients, patients who have been operated for haemorrhoids, patients in whom porto-systemic shunt surgery had been done and patients taking beta blockers and/or nitrates.

After taking the informed consent and fulfilling the inclusion and exclusion criteria, 150 patients were inducted in the study. Selected patients were admitted and booked for sigmoidoscopy after proper preparation at a later date and presence or absence of rectal varices was documented.

RESULTS

A total of 150 patients having coarse echotexture of liver on abdominal ultrasonography were included in this study. Majority of the patients were between 31-50 years and minimum patients were 20-30 years old. Mean age of the patients was 42.45±9.74 year (Table 1). Regarding gender distribution, 96 patients (64%) were male while remaining 54 patients (36%) were female (Table 2). Rectal varices in patients with portal hypertension secondary to cirrhosis of liver were present in 84 patients (56%) (Table 3).

Table 1: Distribution of cases by age

Age (Year)	n	%age
20-30	15	10
31-40	62	41.3
41-50	43	28.7
51-60	30	20
Mean±SD	42.45±9.74	

Table 2: Distribution of cases by gender

Gender	n	%age
Male	96	64
Female	54	36

Table 3: Rectal Varices

Rectal Varices	n	%age
Present	84	56
Absent	66	44

DISCUSSION

Cirrhosis of liver is a disease with many complications. In Pakistan it is mainly due to viral infection especially due to hepatitis B and C, although other causes like alcohol and metabolic diseases are also identified. In Pakistan the anti-

HbC prevalence is reported to be at 31% and the prevalence of hepatitis C has been reported to be at 6.5%⁹. Portal hypertension is an important complication of cirrhosis and manifests as ascites, edema, esophageal varices and rectal varices. Variceal hemorrhage from esophagus is a life-threatening complication of portal hypertension with 30% mortality in the first bleed and with early re-bleeding occurring in 30-50% of patients¹⁰.

Portal hypertension in most patients results in the development of oesophagogastric varices which are associated with massive upper gastrointestinal bleeds. Rectal varices, on the other hand, constitute another collateral pathway, which helps in decompressing the portal system into the systemic circulation through the superior middle and inferior haemorrhoidal veins. They are not usually associated with appreciable morbidity¹⁰.

Exacerbation of hepatic dysfunction has no significant effect on increase in bleeding from rectal varices. The prevalence of hemorrhage from rectal varices is significantly increased in rectal varices of more advanced form, and the prevalence is also significantly higher in patients with positive red color sign¹¹.

Endoscopic Ultrasound permits identification of deep rectal varices in a large proportion of patients without detectable varices on rectoscopy. In one of the studies, it was inferred that the presence of large deep rectal varices correlates with the degree of liver failure and thickness of rectal wall but not with the grade of portal hypertension in the esophagus or the stomach¹².

Although much work has been done on the upper GI complications of portal hypertension, the data on lower GI complications of portal hypertension is scanty. These complications include rectal and colonic varices, non-specific inflammatory changes, mucosal thickening and vasculopathy^{13,14}.

The diagnosis of rectal varices could be missed and can sometimes be fatal [83]. The cited frequency of rectal varices in cirrhosis varies from 44% to 89%^{15,16}.

The exact prevalence and significance of these lesions, their relationship to the severity of the liver disease, and their association with gastric mucosal changes in our area is, however, not known. The current study showed higher rate (56%) of rectal varices in patients with portal hypertension secondary to cirrhosis of liver.

A study from India has reported the frequency of rectal varices at 37% in patients

with portal hypertension and none of the established parameters, e.g., aetiology of portal hypertension, child's class, oesophageal variceal eradication by sclerotherapy or band ligation, history of variceal bleeding, grade of oesophageal varices, presence of portal hypertensive gastropathy or gastric varices as predictive of the occurrence of colorectal varices¹⁷. Individuals with portal hypertension were reported to be more predisposed to develop colitis-like abnormalities and mucosal vascular lesions^{18,19}.

Exacerbation of hepatic dysfunction has no significant effect on increase in bleeding from rectal varices¹¹.

Apart from these, many changes in the wall of blood vessels of colon have been described in patients of portal hypertension. It has been shown that cirrhotic patients have a significantly higher mean diameter of vessels in all three layers. Qualitatively, increased number of small vessels and prominent branching were noted, especially in the superficial and intermediate layers. Tortuous, thick-walled vessels, suggesting arterialisatation of venules, were present in some cases [20]. Some researchers have pointed out that although the frequency of colorectal varices is increased in patients of cirrhosis; there is no significant increase in hepatic venous pressure gradient or glucagon as compared to controls showing that they are not causative factors²¹.

CONCLUSION

Rectal varices are common in patients with portal hypertension. In patients with portal hypertension, with lower GI bleeding, the possibility of rectal varices should be considered.

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