

Original Article

FREQUENCY OF RECTAL VARICES IN CIRRHOTIC PATIENTS

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Background: Most cirrhotic patients develop esophageal varices, with a lifetime incidence as high as 80-90%. Approximately 20% - 30% of cirrhotic patients with esophageal varices develop an episode of esophageal hemorrhage, which has a high mortality of nearly 20-30% with each episode of bleeding.¹

Objectives: To determine the frequency of rectal varices in cirrhotic patients with esophageal varices.

Study Design: Cross-sectional survey.

Setting: Study was carried out in the Department of Medicine, Unit-4, Services Hospital, Lahore.

Duration of study with dates: Study was carried out over a period of six months from 18-02-2009 to 17-08-2009.

Subjects and Methods: Total 150 patients were recruited in this study fulfilling the inclusion criteria. Per-rectal proctoscopy was performed in those patients who had esophageal varices and presence or absence of rectal varices documented.

Results: Mean age of the patients was 45.5±8.6. 119 (79.3%) were male and 31 (20.7%) were females. Rectal varices were present in 70 patients (46.7%). Out of total of 31 female patients included, rectal varices were present in 13 patients (41.9%) and were absent in the remaining 18 patients (58.1%). As far as the male patients are concerned, out of the total 119 patients, rectal varices were present in 57 patients (47.8%) and absent in the remaining 62 patients (52.2%).

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

Keywords: Liver cirrhosis, rectal varices and esophageal varices.

Introduction

Cirrhosis is defined as diffuse process characterized by fibrosis and transformation of normal liver architecture into structurally abnormal nodules. These nodules could be regenerative or hyperplastic.²

Portal hypertension, a major hallmark of cirrhosis, is defined as a portal pressure gradient exceeding 5mmHg. In portal hypertension, porto-systemic collaterals decompress the portal circulation and itself give rise to varices.³ Portal hypertension results in the development of collateral channels between the portal and systemic venous circulation, of which the most important clinically are those that develop in the esophagus.⁴ Thirty percent of patients with compensated cirrhosis and 60-70% of patients with decompensated cirrhosis have gastroesophageal varices at presentation. The risk of bleeding from esophageal varices is 30% in the first year after identification. Patients who have bled once from esophageal varices have a 70% chance of rebleeding, and approximately one third of further bleeding episodes are fatal. The risk of death is maximal

during the first few days after the bleeding episode.⁵

Varices are the commonest single endoscopic diagnosis and there is enough evidence in the local literature to show this as one of the most common cause of upper GI bleeding.⁶

Portal hypertensive gastropathy and colopathy are well described endoscopic abnormalities in patients with portal hypertension.⁷

In patients with liver cirrhosis and portal hypertension, portal hypertensive colopathy is an important cause of lower gastrointestinal haemorrhage.⁸

In a study, the frequency of esophageal varices in cirrhotic patients was 80% and frequency of rectal varices in patients with esophageal varices was 59.5% while no patient without esophageal varices had rectal varices.⁹ In this study, the frequency of rectal varices in patients with esophageal varices due to cirrhosis of liver was studied so that rectal varices could be used as an indirect marker for the presence of esophageal varices and appropriate measures could be taken for its management without undertaking rather expensive and time consuming diagnostic modalities

Materials and Methods

Study Design: Cross-sectional survey.

Setting: Study was carried out in the Department of Medicine, Unit-4, Services Hospital, Lahore.

Duration of study: Study was carried out over a period of six months from 18-02-2009 to 17-08-2009.

Sample size: The calculated sample size is 150 patients, with 8% margin of error, 95% confidence level taking expected percentage of rectal varices in patients with esophageal varices i.e. 59.9%.

Sampling Technique:

Non-probability purposive sampling.

Sample Selection:

Inclusion Criteria:

- | Patients showing coarse echotexture of liver parenchyma on abdominal ultrasound regardless of etiology like chronic viral hepatitis, alcoholism and autoimmune hepatitis
- | Esophageal varices documented by upper GI endoscopy
- | Both genders
- | Patients of 20-60 years of age.

Exclusion Criteria:

- | Patients who have received any therapeutic intervention of their varices.
- | Patients taking beta-blockers and /or nitrates
- | Patients with intra-abdominal malignancy like hepatocellular carcinoma and metastatic liver disease.

Data Collection:

Patients fulfilling inclusion criteria were selected from Medical Unit-IV Services Hospital, Lahore. Informed consent was obtained regarding upper gastrointestinal endoscopy to document the measure esophageal varices and proctoscopy was performed in patients with esophageal varices and presence or absence of rectal varices was documented. All the subjects were assessed by the same endoscopist to minimize the operator dependent variability. Effect modifiers like duration of disease was controlled through stratification.

Data analysis:

Data was collected and compiled in the computer and analyzed using SPSS version 11.0 for windows. Demographic variables were included age and expressed as mean and standard deviation. Gender presented as percentages and frequency tables.

Presence of rectal varices was qualitative variable in the study and presented as frequency distribution table and as percentages. Data stratified for duration of disease to address effect modifiers.

Results

A total of 150 patients who had esophageal varices due to cirrhosis of liver were selected from Medical Unit 4 of Services Hospital Lahore.

Table-1 shows that amongst the 150 patients selected for the study, 119 (79.3%) were male and 31 (20.7%) were females.

Table-2 shows age distribution of patients. Patients were ranged between 40-60 years. Out of the total 150 patients, 6 patients (4%) were in 20-30 year age group, 37 patients (24.7%) were in 31-40 years age group, 53 patients (35.3%) were in 41-50 years age group and the remaining 54 patients (36%) were in 51-60 years age. Mean age of the patients was 45.5 ± 8.6 .

All patients (100%) had the illness in known for less than five years between < 5 years.

Table-3 shows the frequency of rectal varices. Our study showed that out of 150 patients who had esophageal varices, 70 patients had rectal varices (46.7%). (**Table-3**)

. Out of total of 31 female patients included, rectal varices were present in 13 patients (41.9%) and were absent in the remaining 18 patients (58.1%). As far as the male patients are concerned, out of the total 119 patients, rectal varices were present in 57 patients (47.8%) and absent in the remaining 62 patients (52.2%). (**Table-4**)

Table-1: Distribution of cases by gender 150.

Gender	Number	Percentage
Male	119	79.3 %
Female	31	20.7 %
Total	150	100.0 %

Table-2: Distribution of cases by age 150.

Age/Years	Number	Percentage
20-30	06	04.4 %
31-40	37	24.7 %
41-50	53	35.3 %
51-60	54	36.0 %
Total	150	100.0 %
Mean \pm SD		45.5 \pm 8.6

Table-3: Distribution of cases by presence of rectal varices.

Rectal Varices	Number	Percentage
Present	70	46.7 %
Absent	80	53.3 %
Total	150	100.0 %

Table-4: Distribution of rectal varices by gender.

Rectal Varices	No	Male		Female	
		No	%	No	%
Present	57	47.8 %	13	41.9 %	
Absent	62	52.2 %	18	58.1 %	
Total	119	100.0%	31	100.0 %	

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.¹⁰ Much work has been done on the upper GI complications of portal hypertension, the data on lower GI complications of portal hypertension is however scanty. These complications include rectal and colonic varices and vasculopathy.¹¹

The frequency of rectal varices in cirrhosis varies from 44% to 89%.¹² 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 was designed to document the frequency of rectal varices in patients presenting with cirrhosis of liver and to correlate it with the presence of esophageal varices.

A study from India has reported the frequency of rectal varices at 37% in patients with portal hypertension. None of the established parameters, e.g. etiology of portal hypertension, child's class, esophageal variceal eradication by sclerotherapy or band ligation, history of variceal bleeding, grade of esophageal varices, presence of portal hypertensive gastropathy or gastric varices were predictive of the occurrence of colorectal varices.¹³

Individuals with portal hypertension are reported to be more predisposed to develop colitis-like abnormalities and mucosal vascular lesions.¹⁴

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 as compared to controls showing that it is not a contributory.

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 sign.

There were some apprehensions that treatment of esophageal varices by sclerotherapy or band ligation may increase the risk of developing rectal varices. However, obliteration of esophageal varices does not affect the prevalence of hemorrhoids, rectal varices or portal hypertensive colopathy.

Some newer investigations are also being utilized for early detection of rectal varices. Endoscopic rectal ultrasound has been found to be superior in detecting early as well as florid changes in rectum.¹⁵ It 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 stomach. Even transvaginal ultrasound is also very sensitive in detecting rectal and pararectal varices.

The pelvic CT scans of patients with portal hypertension can yield further information about the presence and extent of pararectal venous collaterals, which may be of particular importance in those patients requiring pelvic surgery. The presence of pararectal varices on CT and the diameter of the IMV do not correlate with the presence of rectal varices on colonoscopy.

Decompression of portal hypertension by rectal and pararectal varices does not result in a decreased incidence of esophageal varices. Portal circulation, in particular the contribution of the inferior mesenteric vein, can be evaluated in a relatively non-invasive way by per rectal portal scintigraphy. By this technique the rectal portal shunt index could be calculated which is useful in predicting the prognosis.

This study is useful in many ways. It is relatively an economical study and easy to perform. Upper gastrointestinal endoscopy is nowadays relatively a common diagnostic and therapeutic tool and easily accessible is proctoscopy as diagnostic modality.

Moreover only one variable is used to document the presence or absence of rectal varices which is very

This study has comparable results with the other studies to see the presence of rectal varices in patients with esophageal varices.

Like other studies, this study too has certain shortcomings. Only one variable is being used which makes it a less sensitive study.

Internal hemorrhoids can be wrongly diagnosed as rectal varices and the results could be altered. Rectal varices diagnosis is operator dependent and certain rectal varices can be misdiagnosed or missed.

So considering the merits and demerits this study definitely needs further evaluation but can be used in a positive way to indirectly diagnose the presence or absence of esophageal varices with the help of rectal

varices and further therapy and management can be planned in order to combat with the life threatening complications like gastrointestinal bleeding.

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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