

A Study to Assess the Association between Colonoscopic Finding & Upper Gastro Intestinal Endoscopy Findings in Patients with Portal Hypertension

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ABSTRACT

Introduction: Portal hypertension and its complications are the leading causes of death and liver transplantation, in patients with cirrhosis. Portal hypertension causes hemodynamic and mucosal changes in the entire gastrointestinal (GI) tract. These mucosal changes in upper and lower gastro intestinal tract result in various hemorrhagic manifestations.

Methodology: This study was conducted in RNT Medical College and attached hospitals, Udaipur, Rajasthan. The objective of study was to find relationship between colonoscopic finding and upper GI endoscopy finding in portal hypertension patients. A total of 100 patients' diagnosed cases of portal hypertension were included in study. A predesigned and pretested Performa were used for obtaining information regarding socio-demographic variables and laboratory investigations including upper GI endoscopy and colonoscopy at endoscopy laboratory.

Result: In present study, 75% patient had esophageal varices and 93% patient had portal hypertensive gastropathy. Rectal varices, rectopathy and portal hypertensive colopathy were found in 57% of cases, 39% cases and 32% cases respectively. While hemorrhoids were found in 53% of cases. Among the patients who had esophageal varices, rectal varices were present in 64%. In patients without esophageal varices, rectal varices was present in 36%. Association was found statistically significant ($p = 0.01$). There was no statistical significant association found between esophageal varices and other

colonic lesions like rectopathy, colopathy and haemorrhoids. In present study there was no statistically significant association between portal hypertensive gastropathy and portal hypertension related colonic lesions (PHC, rectal varices, rectopathy and hemorrhoids).

Conclusion: Upper gastro intestinal lesions gastropathy and esophageal varices are more common finding than lower gastro intestinal lesions. Rectal varices are only significant lower gastro intestinal finding on colonoscopy among the patients of portal hypertension who had esophageal varices on upper GI endoscopy.

Key Words: Portal Hypertension, Colonoscopy, Endoscopy, Esophageal varices.

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INTRODUCTION

Portal hypertension is one of significant complicating feature of decompensated cirrhosis. Portal hypertension and its complications are the leading causes of death and liver transplantation, in patients with cirrhosis.¹ Cirrhosis of liver is major problem all over the world. There are various etiological factors for development of cirrhosis of liver among them major factors are alcoholism and viral hepatitis.² Cirrhosis of liver results from necrosis of liver cells followed by fibrosis and nodule formation. The liver architecture is diffusely abnormal and this interferes with liver blood flow and function.³

Fibrosis and distorted vasculature lead to portal hypertension and its sequelae, including gastro-esophageal varices, splenomegaly, ascites, portal hypertensive colopathy (PHC), colonic varices, rectal varices, vascular ectasia in colon & rectum, haemorrhoids, and hepatic encephalopathy result from both portal hypertension and hepatocellular insufficiency. Other major complications of liver cirrhosis and portal hypertension are spontaneous bacterial peritonitis, hepato-renal syndrome and hepatocellular carcinoma.¹ Oesophageal varices are most common upper gastro intestinal (GI) pathology which result in variceal hemorrhage. Among the

cirrhosis patients, 90% of patients develop varices, and nearly 30% of varices bleed. The estimated mortality rate for the first time of variceal hemorrhage is 30-50%. Patients who have had first episode of haemorrhage from esophageal varices have a 60-80% chance of rebleeding within one year after the first episode; nearly 30% of patients further bleeding episodes are fatal.^{4,5}

Portal hypertension causes hemodynamic and mucosal changes in the entire gastrointestinal (GI) tract. These mucosal changes in upper and lower gastro intestinal tract result in various hemorrhagic manifestations. There are only few study available for which showing relationship among upper and lower gastro intestinal lesions. The aim of present study was to find the relationship between colonoscopic finding and upper GI endoscopy findings in patients with portal hypertension.

OBJECTIVES

- (i) To find upper and lower gastrointestinal lesions among portal hypertension patients
- (ii) To study the relationship between colonoscopic finding and upper GI endoscopy finding in portal hypertension patients

METHODOLOGY

This study was conducted in the Department of Medicine and Department of Gastroenterology, RNT Medical College and attached hospitals, Udaipur, Rajasthan. Ethical approval was

obtained from the institutional ethical committee. A total of 100 patients' diagnosed cases of portal hypertension of any etiology undergoing upper GI endoscopy and colonoscopy who met the inclusion criteria were included in the study. Written & informed consent from patients were obtained.

Portal hypertension was diagnosed by altered echotexture of liver, splenomegaly and portal vein dilatation, diameter of portal vein on ultrasonography, co-relating history, LFT and clinical examination. Inclusion Criteria for study were patients who have age > 12 years and ≤ 85 years, Portal hypertension due to any cause, Give written informed consent.

Exclusion criteria for study were patient who have age <12 years and >85 years, who have Inflammatory Bowel Disease, Colonic malignancy, Clinically unstable patients such as on vasopressure support, on ventilator support or in hepatic encephalopathy etc and who did not give consent to participate in study. A predesigned and pretested Performa were used for obtaining information regarding socio-demographic variables and laboratory investigations including upper GI endoscopy and colonoscopy at endoscopy laboratory.

Data Analysis

The findings were recorded in pre-designed and pre-tested Proforma. Data were analyzed in form of proportion and percentage. Chi square test were used for testing association and p< 0.05 was considered significant.

Table 1: Association of Esophageal Varices on Upper GI Endoscopy with Lower gastro-intestinal lesions on colonoscopy and proctoscopy

Lower GI lesions		Upper GI lesion- Oesophageal varices				Total	P value
		Present(n=75)		Absent(n=25)			
		No.	%	No.	%		
Rectal varices	Yes	48	64.00	9	36.00	57	0.01
	NO	27	36.00	16	64.00	43	
Rectopathy	Yes	31	41.33	8	32.00	39	0.40
	NO	44	58.67	17	68.00	61	
Portal HTN	Yes	21	28.00	11	44.00	32	0.13
Colopathy	NO	54	72.00	14	56.00	68	
Hemorrhoids	Yes	41	54.67	12	48.00	53	0.56
	NO	34	45.33	13	52.00	47	

Table 2: Association of Portal Hypertensive Gastropathy on Upper GI Endoscopy with Lower gastro-intestinal lesions on colonoscopy and proctoscopy.

Lower GI lesions		Upper GI lesion- Portal Hypertensive Gastropathy				Total	P value
		Present(n=93)		Absent(n=7)			
		No.	%	No.	%		
Rectal varices	Yes	54	58.06	3	42.86	57	0.43
	NO	39	41.94	4	57.14	43	
Rectopathy	Yes	37	39.78	2	28.57	39	0.55
	NO	56	60.22	5	71.43	61	
Portal HTN	Yes	30	32.26	2	28.57	32	0.83
Colopathy	NO	63	67.74	5	71.43	68	
Hemorrhoids	Yes	49	52.69	4	57.14	53	0.81
	NO	44	47.31	3	42.86	47	

RESULTS

In present study among the total 100 portal hypertensive patients, 75% patient had esophageal varices and 93% patient had portal hypertensive gastropathy. Rectal varices, rectopathy and portal hypertensive colopathy were found in 57% of cases, 39% cases and 32% cases respectively. While hemorrhoids were found in 53% of cases. In present study, out of 100 patient, 75% had esophageal varices. Among the patients who had esophageal varices, rectal varices were present in 64%. In patients without esophageal varices, rectal varices was present in 36%. Association was found statistically significant ($p = 0.01$).

Among the patient with esophageal varices, 41.33% had rectopathy. In patients without esophageal varices, rectopathy was present in 32%. When association was tested by chi square test, it was found statistically insignificant ($p=0.40$). Among Esophageal Varices patients, 28.00% had portal hypertensive colopathy (PHC). In patients without esophageal varices, PHC was present in 32%. Association was not significant ($p=0.13$). In present study, among the patient who had esophageal varices, hemorrhoids were present in 54.67%. In patients without esophageal varices, hemorrhoids were present in 48.00%. it was found statistically insignificant ($p=0.56$). (Table:1)

In this study among the portal hypertensive gastropathy patients 58.06% had rectal varices and 39.78% had rectopathy on colonoscopy while the patients who not had portal hypertensive gastropathy among them 42.86% had rectal varices and 28.57% had rectopathy. This relationship was statistically not significant ($p=0.43$) and ($p=0.55$) respectively.

In present study 32.26% of the portal hypertensive gastropathy patients had portal hypertensive colopathy on colonoscopy and this relationship was statistically not significant ($p=0.83$) while 52.69% of the portal hypertensive gastropathy patients had hemorrhoids on per rectal proctoscopy in portal hypertension patients and this relationship was statistically not significant ($p=0.81$). (Table :2)

DISCUSSION

The present 12 months cross-sectional study was conducted in the Department of Medicine, RNT medical college and attached group of hospitals Udaipur (Raj.), on 100 patients of portal hypertension due different etiologies undergoing upper GI endoscopy and colonoscopy. Portal hypertension was diagnosed by altered echotexture of liver, splenomegaly and portal vein dilatation, diameter of portal vein on ultrasonography, co-relating history, LFT and clinical examination.

In our study, 100 portal hypertension patient were has the mean age 45.91 ± 15.28 years. 39% of study participant belonged to the age group of 31 – 45 years and 30% belonged to the age group of 46 – 60 years. In present study male to female ratio was nearly 2:1 with 67% male and 33% female. In this study among the total 100 portal hypertensive patients, 75% patient had esophageal varices and 93% patient had portal hypertensive gastropathy. In present study rectal varices, rectopathy and portal hypertensive colopathy were found in 57% of cases, 39% cases and 32% cases respectively. While hemorrhoids were found in 53% of cases. In present study colonoscopy was normal in 17% cases of portal hypertension. On colonoscopy 37% patients had rectal varices with hemorrhoids, 27% patients had rectal varices with rectopathy and 22% patients had rectal varices with PHC. While 24% patients

had rectopathy with hemorrhoids, 21% patients had rectopathy with colopathy and 15% patients had colopathy with hemorrhoids. In the contrast to our study, few study reported low prevalence of rectal varices 14.3% by Salama ZA et al⁽⁶⁾ and 12% by Ito K et al.⁷ However, Ghoshal UC et al⁸, Misra SP et al⁹ reported in 31.7% and 40% respectively.

Portal hypertensive colopathy (PHC) was seen in 32% of the cases and rectopathy was present in 39% of the cases. This was similar to the studies by B.Ramesh Kumar et al¹⁰, Ghoshal UC et al.⁸ However there was wide variation in the reported frequency of PHC in different studies. In studies by Diaz-sanchez A et al¹¹ and Zaman A et al¹² reported PHC was seen 23.9% and 3% respectively. While study by Jeong IB et al¹³ and Ito K et al⁷ reported 45.8% and 66% respectively which was higher than present study. This variation in the reporting of PHC may be due to lack of lack of a clear classification system, inter observer variability and lack of consensus on the endoscopic finding.

In this study it was observed that 62.8 % patients with rectal varices had esophageal varices. There was a statistical significant relationship between presence of rectal varices and esophageal varices ($p= 0.01$). In the study by B Ramesh Kumar et al¹⁰ 54.5 % patients with rectal varices had grade III esophageal varices. Similarly Gad YZ et al¹⁴ demonstrated a significant relation between the presence of esophageal varices and rectal varices.

In the present study when the association between the presence of rectopathy and hemorrhoids were tested with esophageal varices, there was no statistically significantly relationship found. Association between Portal Hypertension Colopathy and esophageal varices was analysed, this relationship was statistically not significant ($p=.13$). This finding is in accordance with the previous studies. B Ramesh Kumar et al¹⁰, Diaz-Sanchez et al¹¹, Ito K et al⁷, Ghoshal UC et al⁸ found no association between the presence of PHC and esophageal varices.

On analysis there was no statistically significant association between portal hypertensive gastropathy and portal hypertension related colonic lesions (PHC, rectal varices, rectopathy and hemorrhoids). This finding is in accordance with studies by B Ramesh Kumar et al¹⁰, Ito K et al⁷ and Diaz-Sanchez et al.¹¹

CONCLUSION AND RECOMMENDATION

Portal hypertension was more frequent among men than women. Upper gastro intestinal lesions gastropathy and esophageal varices are more common finding than lower gastro intestinal lesions. Rectal varices are only significant lower gastro intestinal finding on colonoscopy among the patients of portal hypertension who had esophageal varices on upper GI endoscopy. There was no consistent lower gastro intestinal finding present with portal hypertensive gastropathy.

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