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Research Article

**THROMBOCYTOPENIA AND GRADING OF ESOPHAGEAL  
VARICES IN PATIENTS OF CHRONIC LIVER DISEASE**Dr Muhammad Tehseen Ahmad<sup>1</sup>, Dr Sofia Noreen<sup>1</sup>, Dr Samavia Rauf<sup>1</sup><sup>1</sup>Rawalpindi medical College<sup>2</sup>Rawalpindi Medical University Rawalpindi**Article Received:** August 2020**Accepted:** September 2020**Published:** October 2020**Abstract:**

**Introduction:** Cirrhosis represents a late stage of progressive hepatic fibrosis characterized by distortion of the hepatic architecture and the formation of regenerative nodules. **Objectives:** The main objective of the study is to analyse the thrombocytopenia and grading of esophageal varices in patients of chronic liver disease. **Material and methods:** This cross sectional study was conducted in Rawalpindi Medical College during June 2019 to March 2020. Patients fulfilling the inclusion and exclusion criteria were included in the study after taking informed consent. **Results:** From 215 patients, the minimum age was calculated as 18 years and maximum age was 60 years with mean  $\pm$  standard deviation  $36.30 \pm 13.66$  years. The minimum platelet count was calculated as 40000 and maximum platelet count was 180000 with mean  $\pm$  standard deviation  $122707 \pm 48500.43$ . The minimum duration of CLD was calculated as 6 months and maximum duration of CLD was 24 months with mean  $\pm$  standard deviation  $14.37 \pm 5.13$  months. **Conclusion:** Thrombocytopenia was present in 36.3% patients while Esophageal varices was present in 27.9% patients. Significant correlation was found between presence of thrombocytopenia and presence of esophageal varices. Effect modifiers also showed significant influence.

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**INTRODUCTION:**

Cirrhosis represents a late stage of progressive hepatic fibrosis characterized by distortion of the hepatic architecture and the formation of regenerative nodules. It is generally considered to be irreversible in its advanced stages at which point the only option may be liver transplantation. However, reversal of cirrhosis (in its earlier stages) has been documented in several forms of liver disease following treatment of the underlying cause. Patients with cirrhosis are susceptible to a variety of complications and their life expectancy is markedly reduced.

**Clinical Manifestations**

Patients with cirrhosis may present in a variety of ways [ 1 ].

- They may have stigmata of chronic liver disease discovered on routine physical examination
- They may have undergone laboratory or radiologic testing or an unrelated surgical procedure that incidentally uncovered the presence of cirrhosis
- They may present with decompensated cirrhosis, which is characterized by the presence of dramatic and life-threatening complications, such as variceal hemorrhage, ascites, spontaneous bacterial peritonitis (SBP), or hepatic encephalopathy
- Some patients never come to clinical attention. In older reviews, cirrhosis was diagnosed at autopsy in up to 30 to 40 percent of patients [ 2,3 ]

A meta-analysis found that the factors with the best ability to predict cirrhosis in adults with known or suspected liver disease included [ 4 ].

The history should include questioning about risk factors for chronic liver disease including a history of hepatitis, alcohol consumption, diabetes mellitus, use of illicit drugs (by injection or inhalation), transfusions, family history of liver disease, travel, and the presence of autoimmune diseases (including inflammatory bowel disease, rheumatoid arthritis and

thyroid disease). The review of systems should include questioning related to fatigue, easy bruisability, lower extremity edema, fever, weight loss, diarrhea, pruritus, increasing abdominal girth, and confusion or sleep disturbance (possibly indicating encephalopathy) [5].

**Objectives**

The main objective of the study is to analyse the thrombocytopenia and grading of esophageal varices in patients of chronic liver disease.

**MATERIAL AND METHODS:**

This cross sectional study was conducted in Rawalpindi Medical College during June 2019 to March 2020. Patients fulfilling the inclusion and exclusion criteria were included in the study after taking informed consent. Particulars of patients were recorded on a proforma. Detailed history and examination was done for all patients and recorded in same proforma. Laboratory tests were sent including platelet counts. Endoscopy was done and findings were noted. Thrombocytopenia and esophageal varices were labelled as per operational definition. All patients were treated as per hospital protocol. Statistical analysis was done using Statistical Package for Social Sciences (SPSS) version 22.

**RESULTS:**

From 215 patients, the minimum age was calculated as 18 years and maximum age was 60 years with mean  $\pm$  standard deviation  $36.30 \pm 13.66$  years. The minimum platelet count was calculated as 40000 and maximum platelet count was 180000 with mean  $\pm$  standard deviation  $122707 \pm 48500.43$ . The minimum duration of CLD was calculated as 6 months and maximum duration of CLD was 24 months with mean  $\pm$  standard deviation  $14.37 \pm 5.13$  months.

There were 104 (48.4%) male patients and 111 (51.6%) female patients. Thrombocytopenia was present in 78 (36.3%) patients while it was not present in 137 (63.7%) patients. Esophageal varices was present in 60 (27.9%) patients while it was not present in 155 (72.1%) patients.

**Table 1. Descriptive Statistics**

	Minimum	Maximum	Mean	Std. Deviation
Age	18	60	36.30	13.66
Platelet Count	40000	180000	122707	48500.34
Duration of dialysis in months	6	24	14.37	5.31

**Table 2. Distribution of Thrombocytopenia**

Thrombocytopenia	Frequency	Percentage
Present	78	36.3
Absent	137	63.7
Total	215	100.0

**Table 3. Correlation presence of thrombocytopenia and presence of esophageal varices**

			Thrombo- cytopenia	Esophageal Varices
Spearman's rho	Thrombocytopenia	Correlation Coefficient	1.000	.285**
		Sig. (2-tailed)	.	.000
		N	215	215
	Esophageal Varices	Correlation Coefficient	.285**	1.000
		Sig. (2-tailed)	.000	.
		N	215	215

\*\* . Correlation is significant at the 0.01 level (2-tailed).

### DISCUSSION:

From 215 patients, the minimum age was calculated as 18 years and maximum age was 60 years with mean  $\pm$  standard deviation  $36.30 \pm 13.66$  years. The minimum platelet count was calculated as 40000 and maximum platelet count was 180000 with mean  $\pm$  standard deviation  $122707 \pm 48500.43$ . The minimum duration of CLD was calculated as 6 months and maximum duration of CLD was 24 months with mean  $\pm$  standard deviation  $14.37 \pm 5.13$  months.

A platelet count cut-off value of 149,000 was found to have specificity of 82% and sensitivity 39% for detection of presence of varices [6]. A FIB-4 cut-off value of 3.175 was found to have an 83.3% sensitivity and 39.5% specificity in detecting large (grade III, IV) EVs. Platelet count is a noninvasive parameter with high accuracy for prediction of EVs [7]. Cirrhotic patients with normal platelet counts (above 150,000), especially in financially deprived developing countries, can avoid screening endoscopy as they are at a low risk for variceal bleeding, and presence of large EVs in these patients is much less common than in those with thrombocytopenia [8,9].

### CONCLUSION:

Thrombocytopenia was present in 36.3% patients while Esophageal varices was present in 27.9% patients. Significant correlation was found between presence of thrombocytopenia and presence of esophageal varices. Effect modifiers also showed significant influence.

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