

## Frequency of HCV induced thrombocytopenia in Southern Punjab

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### ABSTRACT

**Objective:** To determine the frequency of HCV induced thrombocytopenia in Southern Punjab

**Study Design:** Cross sectional study.

**Place and Duration:** Department of Medicine, Sir Sadiq Khan Abbasi Hospital (Civil Hospital) Bahawalpur. Six months (September 2021 to March 2022)

**Methodology:** Total 264 patients of hepatitis C, both male and female having age 20-70 years were recruited. History was taken and clinical examination was done. Blood sample was taken and send to hospital laboratory for platelet count.

**Results:** Mean age was  $40.88 \pm 12.94$  years. Among 264 patients of HCV, thrombocytopenia was found in 75 (28%) patients. Total 75 (28%) patients were hypertensive and 189 (72%) patients were non-hypertensive. Diabetics were 67 (25%) and non-diabetics were 197 (75%). In age group 20-45 years, thrombocytopenia was noted in 53 (29.61%) patients while 22 (25.88%) patients of age group 46-70 years were found with thrombocytopenia. Statistically insignificant association between thrombocytopenia and age group was detected ( $P = 0.530$ ). Thrombocytopenia was noted in 45 (29.41%) males and 30 (27.03%) females. Association of Thrombocytopenia with gender was not significant with p value 0.671.

**Conclusion:** Present study showed a higher proportion of thrombocytopenia in cases of hepatitis C. Most of the infected patients were males and higher number of patients related to age group 20-45 years. No association of development of thrombocytopenia with age group, gender and diabetes mellitus was detected.

**Keywords:** Liver cirrhosis, thrombocytopenia, hepatitis C, hepatocellular carcinoma

### INTRODUCTION

About 1.3% Americans and 3% world population have chronic hepatitis C virus (HCV) infection.<sup>1</sup> It is a common cause of cirrhosis, hepatocellular carcinoma and chronic liver disease. It is also one of the main reasons for liver transplants in the US.<sup>2</sup> Roughly 6% of Pakistan's population has HCV infection.<sup>3</sup> There is a persistent increase in the prevalence of HCV in Pakistan, which is largely attributable to unsafe blood transfusions, lack of awareness, substandard dental and surgical procedures, the use and re-use of syringes and other medical equipment, as well as unsafe barber, tattoo, and nose/ear piercing tools.<sup>4</sup> Chronic HCV infection is linked to a number of extra-hepatic symptoms, including thrombocytopenia, in addition to hepatic problems.<sup>5</sup> A significant issue with chronic HCV infection is thrombocytopenia, especially in patients with severe liver disease.<sup>6</sup> Since severe thrombocytopenia increases the risk of significant bleeding, intrusive procedures like staging biopsies may not be possible.<sup>7</sup> The underlying cause of thrombocytopenia in chronic HCV infection has been examined in recent studies, along with the value of various management strategies.<sup>8</sup>

### MATERIAL AND METHODS

Between September 2021 to March 2022, total 264 patients of HCV infection, both male or female having age 20-70 years were recruited from Department of Medicine Sir Sadiq Khan Abbasi Hospital (Civil Hospital) Bahawalpur. Type of study was cross sectional. Hepatitis B patients, cirrhotic patients and patients having autoimmune disorder were excluded. "Study was approved by ethical committee and written informed consent was taken from every patient". Clinical examination of all the patients was done and demographic data was taken. History regarding diabetes mellitus and hypertension was taken in term of Yes/No. Sample of blood was taken from every patient and send to laboratory of hospital for platelet count. Findings were noted on pre-designed proforma.

"Data was analyzed by using SPSS v.20. Age was presented as mean and SD while categorical variables were presented as frequencies."

### RESULTS

Mean age was  $40.88 \pm 12.94$  years. Among 264 patients, HCV induced thrombocytopenia was reported in 75 (28%) patients. (Fig. 1) Total 75 (28%) patients were hypertensive and 189 (72%) patients were non-hypertensive. (Fig.2) Diabetics were 67 (25%) and non-diabetics were 197 (75%). (Fig. 3) In age group 20-45 years, HCV induced thrombocytopenia was noted in 53 (29.61%) patients while 22 (25.88%) patients of age group 46-70 years were found with thrombocytopenia. Statistically insignificant association between thrombocytopenia and age group was detected ( $P = 0.530$ ). Thrombocytopenia was noted in 45 (29.41%) males and 30 (27.03%) females. Development of HCV induced Thrombocytopenia has no association with gender ( $P=0.671$ ). Thrombocytopenia was noted in 24 (32%) hypertensive patients while in 51 (26.98%) non-hypertensive patients. Association of Thrombocytopenia with hypertension was insignificant ( $P=0.415$ ). Thrombocytopenia was found in 22 (32.84%) patients and 53 (26.90%) patients respectively in diabetics and non-diabetics. Association of Thrombocytopenia with diabetes mellitus was not significant ( $P=0.352$ ). (Table 1)

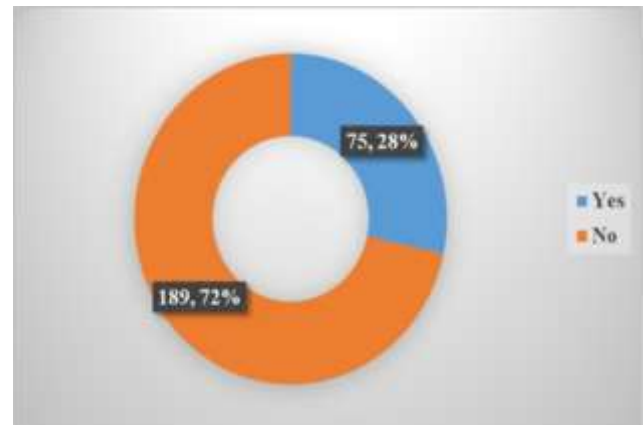


Fig. 1: Frequency of thrombocytopenia

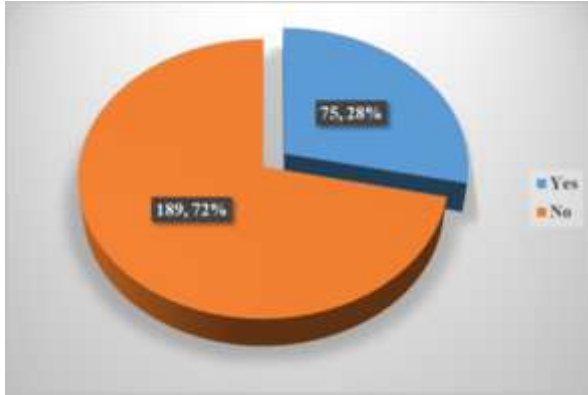


Fig. 2: Frequency of hypertension

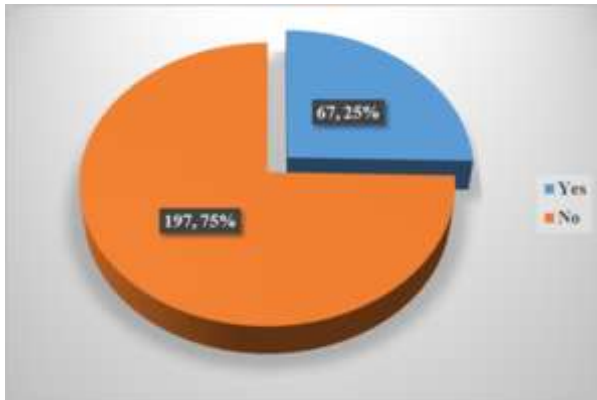


Fig. 3: Frequency of diabetes mellitus

Table 1: Stratification for age, gender, hypertension and diabetes mellitus

Different Variables	Thrombocytopenia		Total	P value
	Yes	No		
<b>Age group</b>				
20-45	53 (29.61)	126 (70.39)	179 (67.80)	0.530
46-70	22 (25.88)	63 (74.12)	85 (32.20)	
<b>Gender</b>				
Male	45 (29.41)	108 (70.59)	153 (57.95)	0.671
Female	30 (27.03)	81 (72.97)	111 (42.05)	
<b>Hypertension</b>				
Yes	24 (32)	51 (68)	75 (28.41)	0.415
No	51 (26.98)	138 (73.02)	189 (71.59)	
<b>Diabetes Mellitus</b>				
Yes	22 (32.84)	45 (67.16)	67 (25.38)	0.352
No	53 (26.90)	144 (73.10)	197 (74.62)	

**DISCUSSION**

This study was planned with objective to assess the frequency of HCV induced thrombocytopenia in Southern Punjab. In this study mean age was 40.88 ± 12.94 years. Among 264 patients, thrombocytopenia was seen in 75 (28%) patients. Wang et al<sup>9</sup> found thrombocytopenia in 10.2% patients of their study which is lower than our study. In study of AZIZ et al,<sup>10</sup> thrombocytopenia was present in 22.6% patients which is in agreement with our study. Nawaz et al<sup>11</sup> recruited 141 patients of HCV infection. Mean age was 47.25 ± 11.52 years and HCV induced thrombocytopenia was reported in 53% patients. Rahman et al,<sup>12</sup> noted Thrombocytopenia in 22% patients of HCV in their study. HCV induced Thrombocytopenia was reported in 25% patients in study of Dodhy et al.<sup>13</sup> In study of Bano et al,<sup>14</sup> authors reported HCV induced Thrombocytopenia in 43.3% patients. In another study of Iman et al<sup>15</sup> HCV induced thrombocytopenia was presented in 32.3% patients.

In our study, in age group 20-45 years, thrombocytopenia was noted in 53 (29.61%) patients while 22 (25.88%) patients of

age group 46-70 years were found with thrombocytopenia. Statistically insignificant association between thrombocytopenia and age group was detected (P = 0.530). Thrombocytopenia was noted in 45 (29.41%) males and 30 (27.03%) females. Development of HCV induced Thrombocytopenia has no association with gender (P=0.671). Behnava et al<sup>16</sup> found HCV induced thrombocytopenia in 13.3% patients and most of the patients were males. Insignificant association of development of HCV induced thrombocytopenia with gender was reported by Iman et al.<sup>17</sup> In study of Nawaz et al<sup>11</sup> most of the patients were belonged to 5<sup>th</sup> decade of life and HCV induced thrombocytopenia was noted in 57.3% patients.

**CONCLUSION**

Present study showed a higher proportion of HCV induced thrombocytopenia. Most of the infected patients were males and higher number of patients related to age group 20-45 years. No association of development of thrombocytopenia with age group, gender and diabetes mellitus was detected.

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