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Research Article

**FREQUENCY OF HYPERSPLENISM CASES PRESENTING
WITH DECOMPENSATED LIVER CIRRHOSIS****Zainab Iqbal, Shaista Ghaffar, Asad Nawaz**
Lahore General Hospital**Abstract:**

Objective: To determine the frequency of Hypersplenism cases presenting with decompensated liver cirrhosis.

Methodology: This was a cross sectional study done at Lahore General Hospital, Lahore during January to July 2017. In this study the cases of Decompensated liver cirrhosis of both genders and in adult range of age more than 18 years were included. Decompensated liver cirrhosis was labelled by the presence of liver size less than 12 cm, coarse echo texture and with any of the following i.e. ascites, portal vein dilatation more than 1 cm, spider angioma, gastric varices or caput medusa. The cases with decreased platelet count and on bone marrow examination revealing normal or hyper cellular marrow were labelled as hypersplenism.

Results; Out of the Hundred cases of decompensated liver cirrhosis, there were total 61 (61%) males and 39 (39%) females. The mean age in the cases was 52.17 ± 9.57 years. There were 32 (32%) cases in child pugh class B and 68 (68%) in class C. Out of these hundred cases Hypersplenism was observed in 44 (44%) of the cases. Hypersplenism was seen significantly high in cases that had liver cirrhosis more than 5 years where it was seen in 41 (51.90%) of cases with $p= 0.001$. This was also significantly high in cases that had child class C where it was seen in 36 (52.94%) of cases with $p= 0.002$.

Conclusion: Hypersplenism is observed in almost half of the cases with decompensated liver cirrhosis and is significantly high in cases with child pugh class C and cirrhosis more than 5 years.

Key Words: Cirrhosis, Hypersplenism.

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INTRODUCTION:

Decompensated liver cirrhosis is one of the high burden diseases in the developing countries and a significant number of cases are present in the developed ones as well and it is considered among the top ten causes of deaths in United States. Hepatitis B, C and alcoholism are the most common causes. The other common causes include infections, glycogen and mineral storage diseases etc [1].

They can lead to various complications and include hepato-renal syndrome, ascites, portal hypertension, variceal bleeding, caput medusa, palmar erythema, hypersplenism etc [2,3]. Decompensated liver cirrhosis lead to increased bleeding tendency due to decreased synthesis of clotting factors that are liver dependent and also due to decrease in platelet count which is due to pan-cytopenia. Pancytopenia is considered as one part of the syndrome of clinical symptoms leading to hyper hypersplenism. There is complex underlying pathophysiology and the major underlying mechanism is increased CD4⁺:CD8⁺ ratio of lymphocytes in cases of cirrhosis as compared to control. It's a controllable complication and hence its early recognition and prompt intervention can decrease further morbidity in such cases [5,6].

OBJECTIVE:

To determine the frequency of Hypersplenism cases presenting with decompensated liver cirrhosis.

MATERIAL & METHODS:**Study design;**

Cross sectional study

Study Setting;

Department of Medicine, Lahore General Hospital, Lahore

Duration;

July 2017 to December 2017

Sampling technique;

Non probability consecutive sampling

In this study the cases of Decompensated liver cirrhosis of both genders and in adult range of age more than 18 years were included. Decompensated liver cirrhosis was labelled by the presence of liver size less than 12 cm, coarse echo texture and with any of the following i.e. ascites, portal vein dilatation more than 1 cm, spider angioma, gastric varices or caput medusa. The cases with decreased platelet count and on bone marrow examination revealing normal or hyper cellular marrow were labelled as hypersplenism.

Statistical analysis;

The data was entered and assessed by using SPSS version 21.0. Stratification was done and post stratification chi square test was applied taking p value < 0.05 as significant.

RESULTS:

Out of the hundred cases of decompensated liver cirrhosis, there were total 61 (61%) males and 39 (39%) females. The mean age in the cases was 52.17±9.57 years. There were 32 (32%) cases in child pugh class B and 68 (68%) in class C. Out of these hundred cases Hypersplenism was observed in 44 (44%) of the cases as displayed in figure 01. Hypersplenism was seen significantly high in cases that had liver cirrhosis more than 5 years where it was seen in 41 (51.90%) of cases with p= 0.001 (table 1). this was also significantly high in cases that had child class C where it was seen in 36 (52.94%) of cases with p= 0.002 (table 2).

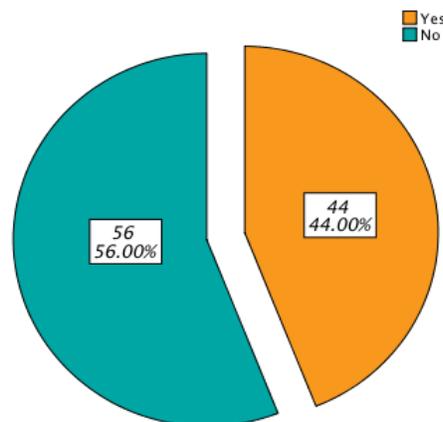


Figure No. 1. Hypersplenism in study subjects

Table No. 1. Hypersplenism and duration of liver cirrhosis in study subjects

Duration of cirrhosis	Hypersplenism		Total	p value
	Yes	No		
< 5 year	3 (14.28%)	18 (85.72%)	21 (100%)	0.0001
> 5 year	41 (51.90%)	38 (48.10%)	79 (100%)	
Total	44 (44%)	56 (56%)	100 (100%)	

Table No 2. Hypersplenism and child pugh class of study subjects

Child pugh classes	Hypersplenism		Total	p value
	Yes	No		
B	8 (25%)	24 (75%)	32 (100%)	0.002
C	36 (52.94%)	32 (47.06%)	68 (100%)	
Total	44 (44%)	56 (56%)	100 (100%)	

DISCUSSION:

Hepatitis B and C is increasing dramatically in the developing world due to poor hygienic condition and lack of health care facilities. This lead to liver damage and once established, decompensated liver cirrhosis can markedly increase the morbidity and mortality in such cases due to various complications and hypersplenism is considered one of the salient but under rated one among the long list of complications.

Hypersplenism was seen in 44 (44%) of the cases in the present study. This was close the findings of the previous studies where this was seen in around 50% of the cases with liver cirrhosis. The study done by Suhat et al revealed that the hypersplenism was observed in 64% of the cases with liver cirrhosis and this was higher than the present study's result of 44% only. The results of the study by Ashraf S et al also revealed higher results and according to their findings this was seen in 53% of the cases.⁷⁻⁸ Why there was such difference? It can be explained by the difference in the inclusion criteria and the cases presenting with different degree of severity of cirrhosis.

Hypersplenism was significantly associated with high frequencies in subjects that were suffering from liver cirrhosis for more than five years and also those with child pugh class C with $p= 0.001$ and 0.002 respectively. This finding was also strengthened by the results of the previous studies done by results were similar to the findings by Ashraf et al and Guralnik et al⁸⁻⁹ where they found significant difference and the other studies, did not find any significant difference in such variables but yet they

found that the cases with higher degree fo severity in cirrhosis had more likely to suffer hypersplenism than mild disease [10,11].

CONCLUSION:

Hypersplenism is observed in almost half of the cases with decompensated liver cirrhosis and is significantly high in cases with child pugh class C and cirrhosis more than 5 years.

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