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General Medicine

ABNORMALITIES OF LIVER FUNCTION TESTS IN PATIENTS WITH HEART FAILURE AND ITS CLINICAL SIGNIFICANCE

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KEYWORDS :

Introduction:
The liver maintains body's internal homeostasis so any abnormality involving liver will have serious consequences on body's equilibrium. Liver failure can be caused by both right heart failure and left heart failure. Heart failure causes a number of pathophysiological effects which, alone or in combination result in liver cell damage. Consequently, liver function abnormalities are so common in heart failure.Early and adequate treatment of the underlying cause of heart failure reverts liver function derangements to normal.

Aims and Objectives:
Aim: 1. To study the prevalence and pattern of Liver Function Test Abnormalities in patients with Heart failure.

Objectives:
1. To study the clinical determinants (cardiac and non-cardiac) affecting Liver Function Tests in patients with Heart Failure.
2. To study whether etiology of Heart Failure has an impact on Liver Function Test abnormalities.

Materials and methods:
All patients of heart failure both Inpatients and outpatients at Bhaskar general hospital from March 2021 to August 2022 were included after taking Informed consent. An observational, cross sectional study was done on 100 cases satisfying inclusion and exclusion criteria.

Study design: A Cross sectional study
Period of study: March 2021 to August 2022
Place of study: Bhaskar General Hospital.

Sample size: The study was conducted on a total of 100 heart failure patients of different etiologies.

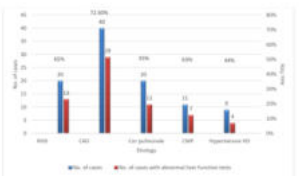
Study Population: Both Inpatients and outpatients at Bhaskar general hospital Medicine OPD were included after taking Informed consent.

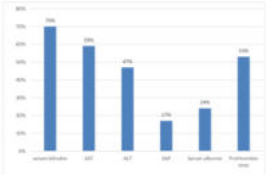
Cases: Heart failure patients meeting the following inclusion criteria and not possessing following exclusion criteria were selected.

All cases of heart failure (100), of different cause were observed in patients from March 2021 to August 2022.

Liver function tests such as serum bilirubin, AST, ALT, Serum Alkaline Phosphatase, Serum proteins and Prothrombin time are performed to all these both on day 1 and day 7 of admission. The clinical progression was also noted as remission or exacerbation.

RESULTS: Out of a total of 100 patients in the study, males and females were 59 (59%) and 41(41%) respectively. The ratio of Males to females in our study is 1.4:1.The maximum number of patients were in the age group of 51-60 years and lowest in below 30 and above 80years group. Mean age was 54.6 ± 13.7. Out of the total 100 patients with heart failure RHD was seen 20%, CAD in 40%,Cor Pulmonale in 20%, cardiomyopathy and Hypertensive Heart diseases contributed to 11% and 9% respectively.Out of 100 patients with heart failure, 64 patients had abnormal liver function tests which contributed to about 64% of the cases among 100 cases in the study (p value 0.06). Maximum LFTs abnormality is seen with of heart failure due to coronary artery disease and least with heart failure due to hypertension.





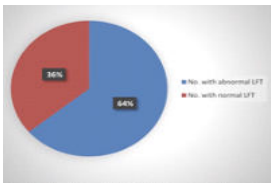


Figure1.Etiology of heart failure among the cases. Figure 2. Percentage of abnormal LFTs

Table 1.Abnormal LFTs in the cases as per etiology Table 2. Summary of LFT abnormalities

CONCLUSION:
1. The commonest etiology of cases presenting with features of cardiac failure at Bhaskar General Hospital is coronary artery heart disease.

2. Liver function abnormalities were mostly present in patients with CAD (72.5%) and (65%) RHD developing heart failure and least in patient with hypertensive heart disease (44%) developing heart failure.

3. The serum bilirubin, serum alkaline phosphatase and serum transaminases returned to normal with remission. Serum protein values and prothrombin time did not change with remission.

4. Serum bilirubin levels at presentation of more than 5mg, presence of hypoalbuminemia and albumin-globulin ratio reversal was associate with a poor prognosis.

5.The serum bilirubin, serum enzymes and prothrombin time were elevated with Exacerbation. Serum proteins did not show any change with exacerbation.

6. Serum bilirubin levels at presentation of more than 5mg, presence of hypoalbuminemia and albumin-globulin ratio reversal was associated with a poor prognosis.

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