



A STUDY OF CLINICAL PROFILE OF PATIENTS WITH LIVER FUNCTION TEST IN CONGESTIVE CARDIAC FAILURE ATTENDED IN A TERTIARY CARE HOSPITAL IN A SUB URBAN POPULATION

Dr. Ravi Kishore Marupalli*	MBBS, Postgraduate in General Medicine, Department of General Medicine, Meenakshi medical college and research institute, Kanchipuram, Tamilnadu. *Corresponding Author
Dr. Srinivasagalu	MBBS, MD, professor in General Medicine, Department of General Medicine, Meenakshi medical college and research institute, Kanchipuram, Tamilnadu.
Dr. D. Anbarasu	MBBS, MD, professor in General Medicine, Department of General Medicine, Meenakshi medical college and research institute, Kanchipuram, Tamilnadu.
Dr. Divya Prabha	MBBS, Postgraduate in General Medicine, Department of General Medicine, Meenakshi medical college and research institute, Kanchipuram, Tamilnadu.

ABSTRACT

BACKGROUND: This study highlights the importance of delivery of early management of congestive heart failure gives good prognosis.

AIMS

1. To study the prevalence of liver function abnormalities in congestive cardiac failure patients
2. To study the pattern of elevation of liver enzymes in cardiac failure.
3. To study the prognostic importance of liver function abnormalities in cardiac failure

MATERIALS AND METHODS: 60 Patients with congestive heart failure were screened in casualty. All patients were subjected to clinical examination and laboratory investigation like Serum bilirubin, Serum transaminases, Serum alkaline phosphatase, Serum proteins, Prothrombin time, Serum Bilirubin. Later SPSS 24 was used for statistical analysis.

RESULTS: Majority of patients belonged to male gender 41 (68%) remaining were 19(31.7%) females. Most of the patients belonged to age group 56-65 years (35%). This could be due to the fact that there is a higher chance of comorbid illness in this age group. This study also showed coronary artery disease as most common cause for cardiac failure. Clinical jaundice was observed in 20 cases (33.3%) and hepatomegaly in 25 cases. Our study showed abnormal values for serum bilirubin in 56.7% of total congestive cardiac failure patients

KEYWORDS : AST, SGOT, SGPT, ALP

INTRODUCTION:

Liver is the biggest organ in human body with a mass of nearly 1.5 kg². Liver has a massive functional reserve and regenerating capacity. It plays a major role in maintaining the normal physiology and metabolic homeostasis of human body. It is also referred to as the custodian of milieu interior⁷. Hence hepatic diseases can have a major impact on the homeostasis of body. Similarly disorders in other systems can adversely affect the liver as well.

Cardiac failure both chronic and acute can cause hepatic dysfunction¹. Twenty five percent of total cardiac output goes to the liver, hence any decrease in cardiac output leads to decreased liver perfusion. By means of vasoregulatory mechanisms and enhanced extraction of oxygen liver can tolerate variations in blood flow.³

But hepatic damage occurs when the threshold levels are crossed. In right heart decompensation raised backpressure causes congestion of the sinusoids and hepatocyte hypoxia.^{4,5} Left heart failure produces decreased cardiac output further causing decreased blood flow to the liver producing hypoxia.⁶ Both these mechanisms lead eventually into centrilobular liver cell necrosis. The most susceptible region of the liver lobule to hypoxic insult is the zone three of acini because of the peculiar arrangement of blood flow in the liver.^{7,8} A proper knowledge and understanding of structure and functions of liver, liver parameters, etiologies and different forms of heart failure and their presentation, as well as the mechanism and pathology of liver in cardiac failure is inevitable before assessing the liver function abnormalities in congestive cardiac failure.⁹

Need for the study:

It highlights the importance of delivery of early management of such cases gives good prognosis. And also scarcity of studies on relation between congestive heart failure and liver function in people from sub urban population in India.

AIMS & OBJECTIVES OF THE STUDY-

To study the clinical profile of 60 cases with congestive heart failure and check for liver function abnormalities in a tertiary care hospital in a sub urban population

MATERIALS AND METHODS: This was a cross sectional study. After getting necessary permission, 60 Patients with congestive heart failure were screened in casualty. All patients were subjected to clinical examination and laboratory investigation like Serum bilirubin, Serum transaminases, Serum alkaline phosphatase, Serum proteins, Prothrombin time, Serum Bilirubin. For statistical convenience people were divided into diagnostic group. Statistical analysis was done using SPSS24.

RESULTS:

Table 1- shows the socio demographic data of the patients screened with congestive heart failure and out of the 60 patients observed majority belonged to 56-65 years that's 21 patients (35%) followed by 46-55 years with 19 patients (31.7%) and least from group of 26 -35 years with 4 patients (6.7%)

Age Distribution Of Patients

Age group of the cases in years	Frequency of cases in each age group	percentage

26-35	4	6.7
36-45	9	15.0
46-55	19	31.7
56-65	21	35.0
66-75	7	11.7
Total	60	100.0

Table 2- It showed the sex distribution of 60 patients screened which consisted of male 41 (68.%)And female 19 (31.7%)

Sex Distribution Of The Cases

Gender group of cases	Frequency of cases in each group	Percentage
Male	41	68.3
Female	19	31.7
Total	60	100.0

Table 3- It was observed Maximum number of cases(38.3%) came under the category of Coronary Artery Disease followed by Cor pulmonale (23.5%). This shows that Coronary artery disease is emerging has the single most common cause of cardiac failure.

Etiology Of Cardiac Failure

Etiology of failure	Frequency of cases	Percentage
Coronary artery disease	23	38.3
Cor Pulmonale	14	23.3
Rheumatic heart disease	10	16.7
Cardiomyopathy	6	10.0
Hypertensive heart disease	7	11.7
Total	60	100.0

Table 4- in our study it was observed that Clinical Jaundice was detected in 20 cases which constitute 33.3%

Presence Of Clinical Jaundice In The Cases

Presence of jaundice	Frequency	Percentage
Present	20	33.3
Absent	40	66.7
Total	60	100.0

Table 5- Out of 60 cases studied clinically hepatomegaly was found in 25 cases which forms 41.7% .

Presence Of Hepatomegaly In The Cases

Presence of Hepatomegaly	Frequency	Percent
Present	25	41.7
Absent	35	58.3
Total	60	100.0

Table 6- in our study it was observed Ascites was clinically made out in 11.7% of cases

Presence Of Ascites In The Cases

Presence of Ascites	Frequency	Percent
Present	7	11.7
Absent	53	88.3
Total	60	100.0

Table 7- Serum Bilirubin were found to be abnormal in 56.7% of the total congestive cardiac failure patients included in this study. Serum AST was found to be abnormal in 53.3% of the subjects and serum ALT was abnormal in 61.7% of the cases whereas serum ALP was found to be abnormal only in 13.3% of cases thus suggesting a hepatocellular pattern of liver enzyme elevation.

Serum albumin was found to be decreased in 38.3 % of the subjects and serum globulin was abnormal in 6.7% of cases. Prolongation of prothrombin time was observed in 35% of cases.

Liver Biochemical Abnormalities Noted In The Study

Serum Bilirubin	Frequency	Percent
Abnormal	34	56.7
Normal	26	43.3
Total	60	100.0

LIVER PARAMETERS	Abnormal FREQUENCY	Normal PERCENT	Abnormal FREQUENCY	Normal PERCENT
Serum Bilirubin	34	56.7	26	43.3
Serum AST	32	53.3	28	46.7
Serum ALT	37	61.7	23	38.3
Serum ALP	8	13.3	52	86.7
Serum Total Protein	12	20.0	48	80.0
Serum Albumin	23	38.3	37	61.7
Serum Globulin	4	6.7	56	93.3
Prothrombin Time	21	35.0	39	65.0

DISCUSSION:

The study population included data of the patients who presented in casualty with congestive heart failure . Majority of patients belonged to male gender 41 (68%) remaining were 19(31.7%) females .most of the patients belonged to age group 56-65 years (35%). This could be due to the fact that there is a higher chance of comorbid illness in this age group .This study also showed coronary artery disease as most common cause for cardiac failure. Clinical jaundice was observed in 20 cases (33.3%) and hepatomegaly in 25 cases . our study showed abnormal values for serum bilirubin in 56.7% of total congestive cardiac failure patients, Serum AST was found to be abnormal in 53.3% of the subjects and serum ALT was abnormal in 61.7% of the cases whereas serum ALP was found to be abnormal only in 13.3% of cases . This study highlights the importance of delivery of early management of such cases gives good prognosis.

Limitations:

1. Small sample size
2. Study period was very short .

CONCLUSION:

The incidence of congestive heart failure is much higher in males than in females.and increased age was associated with higher prevalence Liver function abnormalities were found in 56.7% of the total congestive cardiac failure patients included in this study. .The study highlights the importance of delivery of early management of such cases gives good prognosis.

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