

STUDY ON CO MORBIDITIES ASSOCIATED WITH CIRRHOSIS IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Liver cirrhosis is one of the major non communicable diseases, which is expected to be a prime health care concern of the 21st century. In the present world, the number of persons suffering from the liver disorders is increasing. This may be due to the change in lifestyle and many stress related factors. Identification of the co morbidities associated with cirrhosis is of great importance in the current health care scenario for the effective prevention of complications of this frustrating disease. The aim of the study was to identify the comorbidities in cirrhotic patients. This was an observational prospective study carried out in in-patient department of gastroenterology, Amrita Institute of Medical Sciences for a period of 8 months. 150 patients diagnosed with liver cirrhosis and who satisfied the inclusion criteria were included. Specially designed standardized data collection form was used. From this study, we identified that diabetes mellitus is the most seen co morbidity with a percentage of 34.67%.

Keywords: Cirrhosis, Comorbidities, liver disorders, cirrhotic patients.

INTRODUCTION

Cirrhosis is a severe, chronic, irreversible and non-communicable disease, which is characterised by histological development of regenerative nodules surrounded by fibrous bands in response to chronic liver injury. The natural history of cirrhosis is dependent on both the etiology and treatment of the underlying cause. The exact prevalence of cirrhosis is unknown. A large proportion of cirrhosis patients only come into clinical attention until complications arise and previously undiagnosed cirrhosis is still frequently found at autopsy. It can be primarily divided into two; compensated cirrhosis and decompensated cirrhosis. Initial clinical presentation of patients with decompensated cirrhosis is still common and is characterized by the presence of dramatic and life-threatening complications, such as variceal haemorrhage, ascites, spontaneous bacterial peritonitis, or hepatic encephalopathy¹. The treatment also depend upon the existing co morbidities. This gave us the idea to generate

our study. The general laboratory signs that are frequently elevated in cirrhosis are AST, ALT, ALP and OGT. The general clinical features of cirrhosis include jaundice, nodular liver and spider angionitis.² Ultrasonography, Helical CT and MRI, Fibro scan are the imaging techniques available now to identify the structural modifications of liver. The main pre disposing factors leading to cirrhosis include viral, alcohol, primary biliary, genetic, autoimmune, etc. and the complications mainly found are portal hypertension, variceal bleeding, hepatic encephalopathy, ascites, spontaneous bacterial peritonitis, etc.³

Identification of comorbidities enabled us to determine the most critical factor seen along with cirrhosis; which helps to identify the better treatment regimen for treatment. The purpose of study was to identify the comorbidities associated with cirrhosis and thus to decrease the circumstances of becoming a cirrhosis patient and to minimise the risk to avail complications.

METHODOLOGY**Design of study**

Non-experimental (Observational), prospective and cross sectional study.

Settings

The study was done in the department of gastroenterology, Amrita Institute of Medical Sciences (a tertiary care referral and teaching hospital, in Kochi, Kerala located in an urban area that captures patients from all settings: Rural through Urban). The hospital established in 1998, is approved by the Medical Council of India for conducting graduate and post graduate course in medicine. The Gastroenterology department is the only full-fledged gastroenterology centre in the entire state of Kerala and provides advanced care for cirrhosis as well as complex hepatic diseases. There are full facilities for the investigation and treatment of gastroenterological problems in adult, paediatric and geriatric patients and all complication of cirrhosis.

Study population

Patients visiting the inpatient department of gastroenterology and who satisfy the inclusion criteria.

Sample size

n=150.

Inclusion criteria

- Patients under all age groups.
- Patients diagnosed to have cirrhosis.
- Patients willing to participate in the study.
- Patients visiting inpatient department of gastroenterology.

Exclusion criteria

- Patients unwilling to co-operate.
- Patients visiting outpatient department of gastroenterology.

Method of selection

Patients were selected on the basis of inclusion and exclusion criteria.

Data collection

- Examination of Patient medical record directly.
- Examination of Patient medical record using AHIS (Amrita Hospital Information System).

Tools of collection

Patient data collection form

Duration of study

Data collection was carried out for a period of 8 months from 1st July 2013 to 28th February 2014.

MATERIALS AND METHODS

A non-experimental (observational), prospective study was carried out on patients with cirrhosis at the Gastroenterology inpatient department of AIMS, KOCHI.

A standardised data collection form was prepared and necessary data was collected from the patient files. The data collection form provided demographic details of the patients which included age, sex and location of the patients. Additional information including predisposing factors and complications were also noted. Individual analysis of patient record was carried out to minimise errors. Microsoft Excel was used in statistical analysis.

RESULTS

From the analysis of medical records considering 150 patients, we identified that diabetes mellitus is the most seen co morbidity with a percentage of 34.67% (Table I); although the other comorbidities/without comorbidities accounts 38.67%. The least found comorbidities are Hypertension+Diabetes+Hyperlipidemia and CAD+Hypertension (0.67%) (Figure I).

DISCUSSION

The results from our study showed that most of the subjects showed that the most common frequency of comorbidity lied in category of diabetes (34.67%). The combination co morbidities seem to have less prevalence; less than 2% (except in diabetes+hypertension).

In the Retrospective study conducted by WlazloN, Beijers H J, Schoon E J, et al⁴ as High prevalence of diabetes mellitus in patients with liver cirrhosis showed diabetes mellitus more in cirrhotic patients than control group. Also in the study conducted by Kwon SY⁵ showed that Cirrhotic patients have a high prevalence of DM. A study by Diego Garcia-Compean, Joel Omar Jaquez-Quintana⁶ et al explains in detail about the pathophysiology, clinical implications, etc. of the diabetes in cirrhosis.

The major weaknesses of our study were that we were not able to interact with the patients directly and we have to rely upon their patient medication records as an ultimate source. But we had the strengths such as we were able to double check the data available easily by

using the records and AIMS HIS and thus to minimise errors.

CONCLUSIONS

Diabetes Mellitus was found to be the most common comorbidity among the cirrhotic patients. Insulinresistance in muscular and

adipose tissues and hyperinsulinemia seems to be the most common pathogenic cause behind diabetes in cirrhotic patients. By identifying the co morbidities associated with cirrhosis, the quality of life of patients can be improved and also, can decrease the cost of treatment.

Table I: Observed comorbidities in cirrhotic patients (N=150)

Comorbidities	Number of patients	Percentage of patients
Diabetes	52	34.67
Hypertension+Diabetes	22	14.67
Hypertension	12	8
Diabetes+Asthma	2	1.33
CAD+Dyslipidemia+Hypothyroidism	2	1.33
Hypertension+Diabetes+Hyperlipidemia	1	0.67
CAD+Hypertension	1	0.67
others or without Co morbidities	58	38.67
Total	150	100

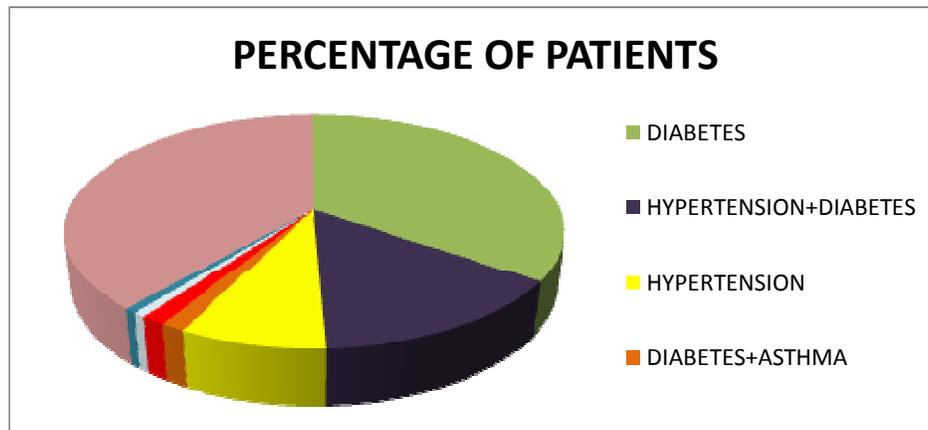


Fig. I: Comorbidities associated with cirrhosis in the sample population (N=150)

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