ORIGINAL RESEARCH

Psychiatric illness among liver cirrhosis patients

[1]Dr. Tanu Kundal, [2]Dr. Amandeep Singh, [3]Dr. Ajay Kundal, [4]Dr.Shivakumar Rayanad

[1]Associate Professor, [4]JR, Department of Psychiatry, MM Institute of Medical Science and Research, MMU, Haryana, India
[2]DM(Hepatology), Hepatologist (DH, Mohali), Punjab, India
[3]MS Surgery, AIMS, Mohali, Punjab, India

Corresponding author
Dr. Amandeep Singh
DM (Hepatology), Hepatologist(DH, Mohali), Punjab, India

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ABSTRACT
Background: Cirrhosis is frequently indolent, asymptomatic and unsuspected until complications of liver disease present. To evaluate psychiatric illness among liver cirrhotic subjects. **Materials & methods:** A total of 50 liver cirrhotic subjects were enrolled. Mean age of patients was 48.5 years. Complete examination was done. Child Pugh Score grading system was used for grading of subjects liver cirrhosis. Chi- square test was done. P- value of less than 0.05 was considered significant. **Results:** A total of 50 subjects were enrolled. Out of 50 patients with cirrhosis of liver, psychiatric illness was seen in 60%of the patients. Non-significant results were obtained while correlating psychiatric illness with grading of severity of liver cirrhosis. **Conclusion:** Screening for liver diseases for the presence of psychiatric disorders is necessary.
Keywords: Liver cirrhosis, Psychiatric illness.

INTRODUCTION

The prevalence of liver disease in patients with psychiatric illness, particularly those receiving a long-term psychotropic treatment is not known. Severe psychiatric disorders (schizophrenia and related disorders, bipolar disorder, depressive disorder, etc.) are associated with metabolic syndromes and the afflicted patients are at high cardiovascular risk.[1,2] Repeated and long-term exposure to toxic substances (alcohol, tobacco, etc.), chronic viral hepatitis and use of psychotropic drugs and polypharmacy, can strain the detoxification functions of the body. All these have their own hepatic toxicity in addition to metabolic effects and may be responsible for liver damages. [3]Chronic liver disease (CLD) encompasses a spectrum of common diseases associated with high morbidity and mortality. In 2010, cirrhosis, or advanced-stage CLD, was the eighth leading cause of death in the U.S., accounting for about 49,500 deaths. [4] The leading causes of CLD are hepatitis C virus (HCV), which affects about 3.6 million people in the US; nonalcoholic fatty liver disease (NAFLD), which has been increasing in prevalence in up to 75% of CLD cases; and alcohol misuse. [5,6]Substance use disorders (SUDs) are a common cause of CLD. About one-third of cirrhosis cases can be attributed to alcohol use, and there is a strong association between IV drug use and HCV. Individual studies point to the high prevalence of mental health disorders (MHDs) among patients with CLD. [7,8] It is clear that mental health disorders and SUDs impact outcomes for patients with CLD such that addressing these co-occurring disorders is critical to caring for this population.

Hepatic impairment affects many critical aspects of pharmacokinetics (e.g., absorption, first-pass metabolism, hepatic biotransformation, the synthesis of drug-binding proteins, and fluid balance which determines the volume available for drug distribution). [9] The reduced first-pass metabolism and hepatic biotransformation lead to an increase in oral bioavailability and prolonged drug effects. If serum albumin is reduced, then it will affect the highly protein-bound drugs. [10] In presence of ascites, the increased volume of distribution will affect the water-soluble drugs. Hence, this study was conducted to evaluate psychiatric illness among liver cirrhotic subjects.

MATERIALS & METHODS

A total of 50 liver cirrhotic subjects were enrolled. Mean age of patients was 48.5 years. Complete examination was done. Child Pugh Score grading system was used for grading of subjects liver

cirrhosis. According to this grading system, patients were grade according to increasing order of severity as follows: Grade A, Grade B and Grade C. Psychiatric illness among liver cirrhosis patients was assessed and was correlated with severity of liver cirrhosis. The results were analyzed using SPSS software. Chi- square test was done. P- value of less than 0.05 was considered significant.

RESULTS

A total of 50 subjects were enrolled. Out of 50 patients with cirrhosis of liver, psychiatric illness was seen in 60%of the patients. Mean age of the patients with psychiatric illness was 48.5years. 70% of the subjects were males while the remaining were females. Non-significant results were obtained while correlating psychiatric illness with grading of severity of liver cirrhosis.

Table 1: Psychiatric illness among liver cirrhosis patients

Variable	Number of patients	Percentage
Psychiatric illness present	30	60
Psychiatric illness absent	20	40
Total	50	100

Table 2: Demographic details

Variable	Number
Mean age (years)	48.5
Males (%)	70
Females (%)	30

Table 3: correlation of Child-Pugh score grading with psychiatric illness

Child-Pugh score grading	Psychiatric illness present (n)	Psychiatric illness absent (n)	P-value
Grade A	10	5	0.1
Grade B	13	8	
Grade C	7	7	
Total	30	20	

DISCUSSION

Liver cirrhosis (LC) is a frequent disease with various causes and a severe prognosis. Thus, after a first episode of decompensation, the 5-year mortality in the absence of liver transplantation (LT) is as high as 85%.[11] Renal impairment, whether acute or chronic, is a highly prevalent comorbid condition in cirrhotic patients, which is associated with a poor prognosis.[12] In this clinical context, acute kidney injury (AKI) [13] is frequent and often of functional origin (around 70%). However, AKI of other origin are not rare, mainly secondary to hepato-renal syndrome (HRS), drug nephrotoxicity or severe sepsis.[14]Chronic Kidney Disease (CKD) is not infrequent as well and can be of various origins (glomerulonephritis, diabetic nephropathy or hypertensive nephrosclerosis). Although several studies assessed the frequency of renal impairment in patients with cirrhosis, it is not always clear whether it was acute or chronic kidney disease. About the prevalence of CKD, several studies suggest a prevalence of CKD stage 3 or higher (i.e., estimated Glomerular Filtration Rate (eGFR) < 60 mL/min per 1.73 m^2) between 20% and 40%. In a study including more than 1400 cirrhotic patients who underwent an evaluation of renal function by a reference method in pre LT clinical assessment, 11.3% had a GFR below 40 mL/min. [15] Hence, this study was conducted to evaluate psychiatric illness among liver cirrhotic subjects.

In the present study, a total of 50 subjects were enrolled. Out of 50 patients with cirrhosis of liver, psychiatric illness was seen in 60%of the patients. Mean age of the patients with psychiatric illness was 48.5years. A study by Bianchi G et al, one hundred and fifty-six patients with cirrhosis were studied. Among individual domains, the more severely affected was General Health, the less compromised was Positive Well-Being. A negative relation was found between Child-Pugh score (a comprehensive measure of disease severity) and global Psychological General Well-Being Index and several individual subscales. The Beck Depression Inventory scores were indicative of a depressed mood in over 50% of patients, in relation to the presence of clinical symptoms. Patients with cirrhosis have signs of psychological distress and depression, as assessed by Beck Depression Inventory and Psychological General Well-Being Index, in relation to the severity of liver disease. Accordingly, a non-negligible number of patients warrant treatment.[16]

In the present study, 70% of the subjects were males while the remaining were females. Non-significant results were obtained while correlating psychiatric illness with grading of severity of liver cirrhosis. Another study by Thakur A et al, a total of 60 patients diagnosed with liver cirrhosis were enrolled. Physical examination was concentrated to detect stigmata of chronic liver disease. Child Pugh score grading system was used for grading of patients liver cirrhosis. According to this grading system, patients were grade according to increasing order of severity as follows: Grade A, Grade B and Grade C. Psychiatric illness

among liver cirrhosis patients was assessed and was correlated with severity of liver cirrhosis. Out of 60 patients with cirrhosis of liver, psychiatric illness was seen in 60 percent of the patients. Non-significant results were obtained while correlating psychiatric illness with grading of severity of liver cirrhosis.[17]Higher rates of anxiety disorders too have been found in patients with CLD. [18] Furthermore, presence of anxiety negatively correlates with health-related quality of life in this group. Several community-based studies have described a high prevalence and morbidity of depression in nonalcoholic fatty liver disease (NAFLD). For instance, a population-based study found that 23.6% of CLD patients fulfilled criteria for a diagnosis of depression;[19] another small case–control study [20]found that among patients with nonalcoholic steato-hepatitis, the odds of having lifetime depression was 3.8 times compared to controls without liver disease.Mental health symptoms have been associated with the severity of liver disease in some but not all studies. [21] Mental health disorders also may have more dire consequences in this population. In a national survey of adults, 1.6% of patients with depression were found to have liver disease. Among this group with depression, suicide attempts were 3-fold higher among patients with CLD vs patients without CLD. [22]

CONCLUSION

Psychiatric disorders and liver illnesses are correlated in multiple ways. Screening for liver diseases for the presence of psychiatric disorders is necessary.

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