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ORIGINAL ARTICLE

Outcomes of Covid-19 Disease in Cirrhotic and Non-Cirrhotic Patients

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ABSTRACT

Objective: The purpose of this study is to evaluate whether there is a difference in poor outcomes between cirrhotic and non-cirrhotic individuals who have been diagnosed with coronavirus infection.
Study Design: Retrospective/cohort study
Place and Duration: Study was conducted at PHFMC (ZCD QADIR BAKHASH,Toba Tek Singh) within a duration of July 2020-Dec2021.
Methodology: There were 140 participants in all, including men and women with or without chronic liver disease. This study included people aged 18 to 70. Two groups of patients were formed. With cirrhosis, 70 individuals are in group I, while the rest are in group II (without cirrhosis 70 patients). The death rates of both groups were compared. Data were analyzed using SPSS 24.0.
Results: In group I, there were 40 men (57.1%) and 30 women (42.9%) with an average age of 41.9±8.35 years, whereas in group II, there were 45 men (64.3%) and 25 women (35.7 percent) with an average age of 45.11±7.41 years. With p-value 0.05, we discovered that mortality rates among patients in group I (cirrhotic) were significantly higher than those of patients in group II (non-cirrhotic) with mortality rates of 25 and 8 respectively.
Conclusion: We came to the conclusion that the incidence of poor outcomes was considerably higher among cirrhotic patients with coronavirus illness as compared to non-cirrhotic individuals in our research.
Keywords: Chronic Liver Disease, Mortality, Corvid-19

INTRODUCTION

From a minor sickness to a potentially life-threatening disease, SARS-CoV-2 symptoms may vary widely.[1] People infected with SARS-CoV-2 have varying degrees of coronavirus disease 2019 (COVID-19), ranging from moderate to asymptomatic to severe and life-threatening. Sociodemographic and comorbid conditions have been linked to a higher incidence of severe COVID-19 illness.[2] Infection with SARS-CoV-2 usually leads in hepatic involvement histologically, increasing liver function tests or abrupt death [3]. Individuals who already had cirrhosis or chronic liver disease and were infected with SARS-CoV-2 have had varying degrees of success. It is estimated that up to 40% of cirrhotic individuals with SARS-CoV-2 infection perished in limited trials from tertiary referral centres. According to prior investigations, cirrhotics who had SARS-CoV-2 infection died at the same rate as those who had cirrhosis-related symptoms but didn't have the virus [5].

Those with cirrhosis but no COVID-19 or those with COVID-19 but not advanced liver disease cannot expect a greater risk of catastrophic consequences in cirrhosis. [6] Research has shown that those who have liver disease are more prone to have poor outcomes. ' Covid-19's influence on cirrhosis patients' mortality and development of ACLF is inconclusive, according to the results of this investigation. There have been a few studies comparing COVID-19 to cirrhosis, but they are very rare. [7,8,]

COVID-19 infection may cause flu-like symptoms such fever, cough, and dyspnea, as well as varying degrees of liver damage. [9]Many of those with cirrhosis have biochemical abnormalities, liver damage, and hepatic decompensation as a result of earlier liver disease. [10,11] An elevated risk of severe COVID-19 is due to the liver's cirrhosis' immunological malfunction, [12] Another risk factor for COVID-19 patients with poor prognosis is decompensated liver cirrhosis or acute-on-chronic liver failure. [13,14]

SARS-CoV-2 infection may result in a wide range of symptoms and outcomes, and genetic variances throughout the globe may alter the severity of the sickness. There is currently no recognised treatment for COVID-19 patients who have underlying hepatic illness. Cirrhosis and mortality rates in patients were examined in this research.

MATERIALS AND METHODS

This retrospective/observational study was conducted at PHFMC (ZCD QADIR BAKHASH,Toba Tek Singh) and comprised of 140 patients. Details about the starting point After receiving written agreement, the age and gender of the enrolled patients were recorded. Patients under the age of 18 who did not provide written consent were excluded from the research.

This research included Covid-19 participants of all genders who had or did not had chronic liver disease. The age range of the patients was 18 to 70 years old. Two groups of patients were established. Group I (consisting of 70 patients with cirrhosis) and Group II (consisting of 70 patients with cirrhosis) (without cirrhosis 70 patients). Patients were also tested for SARS-CoV-2 infection within three days of admission using a nasopharyngeal swab and PCR. Barcelona Clinic Liver Cancer (BCLC) classification was used to stage HCC and the Child-Pugh score (CPS) and the Model for End-stage Liver Disease (MEL) were used to quantify liver function (MELD). The Charlson Comorbidity Index was established to assess mortality and morbidity in all individuals included.

The mortality outcomes of the two groups were compared. SPSS 24.0 was used to analyse all of the data.

RESULTS

In group I, there were 40 men (57.1%) and 30 women (42.9%) with an average age of 41.9±8.35 years, whereas in group II, there were 45 men (64.3%) and 25 women (35.7 percent) with an average age of 45.11±7.41 years. (Table 1)

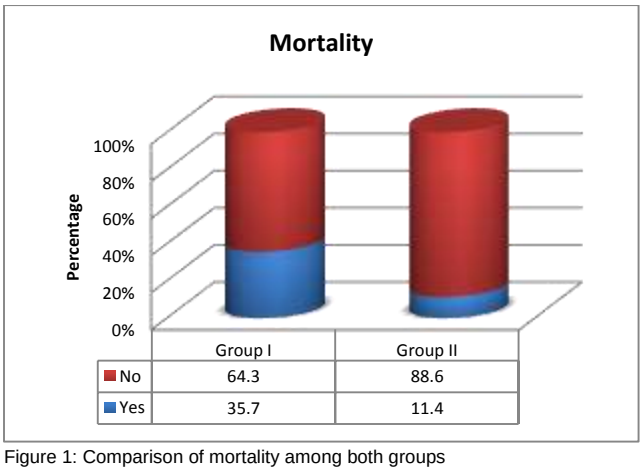

Figure 1: Comparison of mortality among both groups

We found that hospital stay in cirrhotic group was greater 40.4±8.20 days as compared to group II 17.8±5.33 days.(table 2)

Table 1: Demographics of enrolled patients at the start

Variables	Group I	Group II
Mean Age (years)	41.9±8.35	45.11±7.41
Gender		
Male	40(57.1%)	45(64.3%)
Female	30(42.9%)	25 (35.7%)

With p-value 0.05, we discovered that mortality rates among patients in group I (cirrhotic) were significantly higher than those of patients in group II (non-cirrhotic) with mortality rates of 25 and 8 respectively.(fig 1)

Table 2: Comparison of hospital stay among both groups

Variables	Group I	Group II
Hospital stay (days)	40.4±8.20	17.8±5.33

DISCUSSION

Attempts to limit the transmission of the SARS-CoV2-virus might have a severe effect on traditional medical care by interrupting treatment and monitoring operations. Patients with and without cirrhosis who were physically present at our medical institution and deemed to be at high risk of developing severe COVID-19 were included in this research to determine the prevalence of COVID-19 in that population.

In current study 140 patients of both genders were presented and equally divided in two groups. In group I, there were 40 men (57.1%) and 30 women (42.9%) with an average age of 41.9±8.35 years, whereas in group II, there were 45 men (64.3%) and 25 women (35.7 percent) with an average age of 45.11±7.41 years. These results were comparable to the previous researches. [15,16]

In our study, with p-value 0.05, we discovered that mortality rates among patients in group I (cirrhotic) were significantly higher than those of patients in group II (non-cirrhotic) with mortality rates of 25 and 8 respectively. If nonalcoholic fatty liver disease and nonalcoholic steatohepatitis (NASH) are closely linked to diabetes, obesity, and other aspects of the metabolic syndrome, patients with any of these diseases may have a greater risk of death than those without (MetS). [17,18] According to Ghoshal et al., individuals with COVID-19 had elevated liver enzymes in 10% to 53% of cases. According to various research, the amount of albumin in the blood has dropped. These anomalies were more common in patients with COVID-19. [19] Several indicators have been identified by Izcovich and colleagues as being predictive of severe disease and/or death. Izcovich and associates Severe illness manifests as elevated levels of the enzyme aspartate aminotransferase (AST), low levels of albumin, and elevated levels of the blood bilirubin. [20] The prevalence of diabetes mellitus (DM) in patients with cirrhosis is around 30 percent [21], but this is not due to obesity-induced insulin resistance. While cirrhotic persons have a higher risk of developing malnutrition and cachexia as a result of a range of metabolic pathophysiologic alterations, they are also more likely to develop diabetes. The cirrhotic patient's cachexia and the sarcopenia-induced tendency toward emaciation [23,24] were, however, the rationale for stratifying data in our analysis by BMI.

We found that hospital stay in cirrhotic group was greater 40.4±8.20 days as compared to group II 17.8±5.33 days. Non-cirrhotic patients were found to spend less time in the hospital than cirrhotic patients, according to previous studies. [25] In patients with cirrhosis of the liver, there is an increased risk for complications from the disease. Patients with COVID-19 with liver cirrhosis had a 33% mortality rate, according to a worldwide registry. Patients with cirrhosis had a greater mortality rate than those without cirrhosis in COVID-19. [27]

Results from the French National Hospital Discharge database of 3207 patients with concomitant cirrhosis who were hospitalised for COVID-19 were presented by Mallet et al. [28] The mortality OR for cirrhotic patients was 1.73 (1.59–1.88), which is in line with our results. When comparing deaths due to compensated and decompensated cirrhosis, the adjusted odds ratios for 30-day mortality (0.71, 0.63–0.80) and 2.21, 1.94–2.51 were computed, highlighting how critical it is to define the severity of cirrhosis in order to accurately predict outcomes.

There is a higher mortality rate among people with cirrhosis compared to those without the disease. The mortality rate in people with advanced cirrhosis is projected to go up. Patients with cirrhosis should be assessed for COVID19 preventive methods such vaccination prioritising and shielding.

CONCLUSION

We came to the conclusion that the incidence of poor outcomes was considerably higher among cirrhotic patients with coronavirus illness as compared to non-cirrhotic individuals in our research.

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