

ORIGINAL ARTICLE

Association of Adverse Outcomes in Patients with Cirrhosis Presented with COVID-19

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ABSTRACT

Objective: To determine the association of adverse outcomes in term of mortality in patients with cirrhosis presented with coronavirus disease.

Study Design: Retrospective/observational study

Place and Duration of Study: Department of Medicine, Chandka Medical College Hospital, Larkana from 1st March 2019 to 31st December 2020.

Methodology: Two hundred and twenty covid-19 patients of both genders with or without chronic liver disease were enrolled in this study. Patients were categorized in to two groups. Group A (with cirrhosis 60 patients) and group B (without cirrhosis 60 patients). Outcomes in term of mortality between both groups were examined.

Results: There were 38 (63.33%) males and 22 (36.67%) were females with mean age 46.14±8.44 years in group A while in group B, 40 (66.67%) and 20 (33.33%) patients were males and females with mean age 45.26±9.34 years. Patients with cirrhosis had high mortality rate as compared to patients without cirrhosis (33.33% Vs 13.33%) with p-value 0.0001.

Conclusion: A significant association of adverse outcomes was found in cirrhotic patients with coronavirus disease.

Keywords: Chronic Liver Disease, Corvid-19, Mortality

INTRODUCTION

The total number of cases of the Corona virus (COVID-2) case has increased to 4,40,462 on 22 June 2020 after India registered its first case since 30 January 2020¹, as a result of the novel Severe Acute Respiratory Syndrome-Corona Virus 2 (SARS-CoV-2). While the COVID-19 is predominantly present in most patients as respiratory disease, extrapulmonary symptoms were identified as well.³ The tropics of the virus and the involvement in endothelial hepatic cells and cholangiocytes⁴ can predispose to a direct hepatotoxic damage⁵ to angiotensin-converting enzyme-2 (ACE-2) receptors.³

The liver enzyme distortion in 14 to 53% of COVID-19 cases is common.^{4,5} The clinical effects of patients without liver disease are not well understood because most of these disorders are mild in nature and are therefore clinically irrelevant.⁶ Their effect has nevertheless begun to appear in patients with underlying liver diseases. Developed data from a world-wide registry indicate poor results in cirrhosis patients. Of these, 45% reported a new decompensation and 33% reported a mortality rate. In comparison, a death rate of 8 per cent was greater for 303 CLD patients without cirrhosis.⁷

The magnitude of SARS-CoV-2 infection, representing a multitude possible presentations and results, may theoretically be affected by genetic variability around the world. Nevertheless, we do not know much about COVID-19 patients from various parts of the world with underlying liver diseases. We carried out this research to assess the correlation of mortality in cirrhotic disease patients.

MATERIAL AND METHODS

This retrospective/observational study was conducted at Department of Medicine, Department of Medicine, Chandka Medical College Hospital, Larkana from 1st March 2019 to 31st December 2020 and comprised of 120 patients. Patients detailed demographics age and gender were recorded after taking written consent. Patients with ages <18 years and those were not agreed excluded from this study. Patients were aged between 18-60 years of both genders with or without chronic liver disease were enrolled in this study. Patients were categorized in to two groups. Group A (with cirrhosis 60 patients) and group B (without cirrhosis 60 patients). Outcomes in term of mortality between both groups were examined. All the data was analyzed by SPSS 27.

RESULTS

There were 38 (63.33%) males and 22 (36.67%) were females with mean age 46.14±8.44 years in group A while in group B, 40 (66.67%) and 20 (33.33%) patients were males and females with mean age 45.26±9.34 years (Table 1).

Hospital stay was greater among the patients with cirrhosis (group A)40.6±4.12 days as compared to the patients without cirrhosis (group B)13.54±2.22days. Patients with cirrhosis had high mortality rate as compared to patients without cirrhosis (33.33% Vs 13.33%) with p-value 0.0001 (Table 2).

Table 1: Demographic information of the patients

Variable	Group A	Group B
Gender		
Male	38 (63.33%)	40 (66.67%)
Female	22 (36.67%)	20 (33.33%)
Mean age	46.14±8.44	45.26±9.34

Table 2: Association of adverse outcomes among the patients of both groups

Adverse outcomes	Group A	Group B
Hospital stay (days)	40.6±4.12	13.54±2.22
Mortality		
Yes	33.33	13.33
No	66.67	86.67

P-value 0.0001

DISCUSSION

The majority of the patients 65% were males with age between 18-60 years of age. Mean age of the patients in group A was 46.14±8.44 and B was 45.26±9.34 years. These findings were comparable to the previous studies.^{8,9}

In COVID-19 patients the relationship between various comorbidities and mortality has been partly examined.¹⁰⁻¹² Galiero et al¹³ argued that the deaths of COVID-19 patients are highly affected both by admission and comorbidity clinical conditions. In chronic liver disease subjects, along with an increase in hepatic damage, he has observed very poor results. In the present study, the mortality rate for cirrhotic patients was 33.33% greater than in cirrhosis-free patients 13.33%. The findings of this study is comparable to several previous studies.¹⁴⁻¹⁵ Due to uncertainties about infection control and problems in adherence to the study protocol, COVID-19 has had a significant impact on liver science, particularly clinical trials.¹⁶ The report has been released. Sharma et al¹⁷ submitted that ACLF mortality was still statistically small ($p=0.25$) and may be caused by the small sample size of the ACLF, at 50 percent, with COVID-19 and at 26 percent without COVID-19.

The results of SARS-CoV-2 infection, like bacterial infections in patients with ACLF, are close to other acute precipitants. In comparison with those with bacterial infection, poor results in COVID-19 patients are documented in a recent review.¹⁸ Medicines such as hydroxychloroquine, re-desivir, other antivirals and plasma therapy were tested in the management of COVID-19 patients. None of these treatments have been shown to change the result certainly. In addition, most of them are liver-related. Consequently, successful treatments are urgently needed to enhance results. For the control of all complications, we adopted the standard recommendation. For UGIB patients we postponed endoscopy, and controlled vasoconstrictor patients such as terlipressine and carvedilol patients for secondary prophylaxis. We found that in comparison with our previous experience the proportion of COVID-19 patients with alcoholic etiology of CLD has been lower. During the pre-COVID period, alcohol etiology resulted in the highest proportion of admitted CLD patients.¹⁹⁻²¹

CONCLUSIONS

A significant association of adverse outcomes was found in cirrhotic patients with coronavirus disease.

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