Original Research Paper

General Medicine

A STUDY OF HEPATIC ENZYME LEVELS AND ITS RELEVANCE IN COVID

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ABSTRACT **Background:** The mortality rate is never understood completely but was reported in the range of 3 to 7 percent who were infected with covid - 19. This study puts in an effort to find one such difference if any between the survivors when compared to the non-survivors. This study makes an effort to find the liver enzyme levels and bile salts levels in the two groups. **Aims And Objectives:** To study the hepatic enzyme and bile salts levels and their significance in Covid. **Materials And Methods:** This is a retrospective study done in the Department of General Medicine, Sri Siddhartha Medical College and Research Centre, Tumkuru, Karnataka. **Results:** There is a significant difference in the levels of hepatic enzymes in survivors when compared to that of non-survivors. **Conclusion:** This study successfully portrays the importance of hepatic enzyme levels in understanding the progression of the disease.

KEYWORDS : Hepatic, Enzymes, Retrospective, Covid-19.

INTRODUCTION:

It all started in Oct 2019 when many cases were reportedly admitted with pneumonia-like symptoms in the hospital in Wuhan province of China[1]. It went on for many days and more number of patients was being admitted with similar symptoms in the same province. Things changed when the treating Doctors and nurses starting to have the same set of symptoms that the patients had earlier diagnosed. Many of them have been said to be admitted but recovered fully. The contagious property of the disease was found and it would be transmitted through droplet infection was later understood[2]. The patients although were reported to have primarily admitted having pneumonia like symptoms but there were other signs and symptoms also that were increasingly observed. Some of the symptoms were headache, nausea, diarrhoea, multiple organ dysfunction[3]. Although some were being admitted with all these symptoms, others did not have any symptoms at all. Later it was understood that there was a spectrum of disease that was supposed to be understood. At one end of the spectrum patients were infected with negligible symptoms and would recover fully[4]. At the other end of the spectrum patients were admitted with pneumonia and also other severe complications like sepsis, respiratory failure and other organ failures. Many have lost their lives[5]. Then came a time when WHO effectively called it as a pandemic[6]. The mortality rate is never understood completely but it in the range of 3 to 7 percent[7]. This study puts in an effort to find one such difference if any between the survivors when compared to the non-survivors. This study makes an effort to find the liver enzyme levels and bile salts levels in the two groups.

AIMS AND OBJECTIVES:

To study the hepatic enzyme and bile salts levels and their significance in Covid.

MATERIALS AND METHODS:

This study is a retrospective study in the Department of General Medicine, Sri Siddhartha Medical College and Research Centre, Tumkuru, Karnataka.

This study was done from June 2021 to December 2021.

One hundred thirty-four survivors and an equal number of non-survivors were selected. The MRD was visited and the files were asked. The haematological and biochemical profile has been reported.

Inclusion Criteria:

All the patients were selected in the age group of 20 to 60 years old

Exclusion Criteria:

Any patients with other comorbidities were not selected to decrease the bias.

Patients with liver disease

Patients with a history of jaundice within one year before the infection.

Statistics:

All the statistical analysis was done using the latest version of the R software.
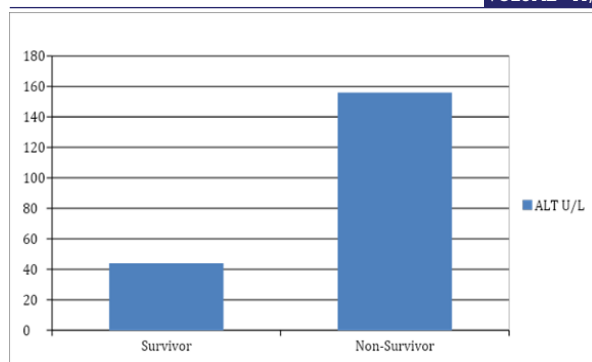
RESULTS:

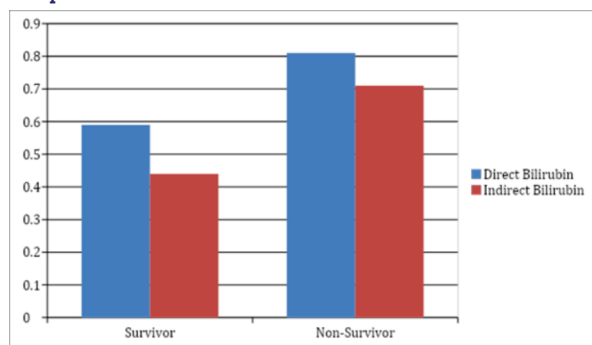**Table 1: Levels Of Liver Enzymes And Salts**

Enzymes and Salts	Survivor	Non- Survivor	Sig
AST U/L	67.12 ± 12.93	124.81 ± 31.14	<0.001
ALT U/L	44.28 ± 09.28	156.30 ± 27.39	<0.001
Direct bilirubin, mmol/L	0.59 ± 0.38	0.81 ± 0.34	Not Sig
Indirect bilirubin, mmol/L	0.44 ± 0.07	0.71 ± 0.27	Not Sig
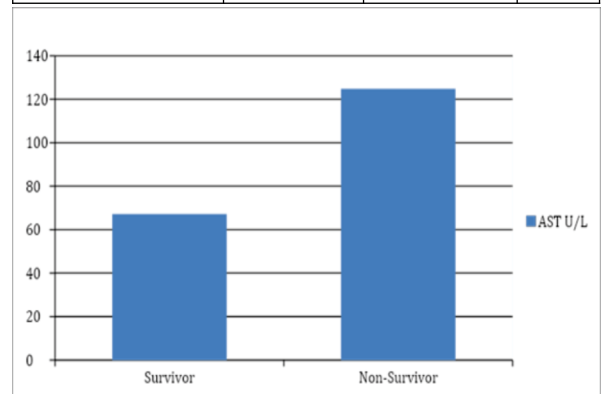
Graph 1: AST U/L

Graph 2:

Graph 3: Bile salts

DISCUSSION:

As earlier discussed this disease has a spectrum of signs and symptoms that can be presented. At one end of the spectrum patients were infected with negligible symptoms and would recover fully. At the other end of the spectrum patients were admitted with pneumonia and also other severe complications like sepsis, respiratory failure and other organ failures. Many symptoms is caused by the reactive inflammatory substances that are produced in the body. These inflammatory markers are known to attack the normal tissues of the body. The symptoms are also known to suddenly disappear at one end of the spectrum but also at the other end it is known to burst out of proportions. So this disease has to be understood in detail and the spectrum has to be understood to effectively treat the patients and thus save lives[8]. Haematological and biochemical markers to identify the prognosis of the disease have already been reported by many studies[9]. There are other studies which cover the importance of studying the inflammatory markers that are responsible for creating a cytokine storm[10]. CRP, ESR, IL-6 to name a few has been extensively studied. Their link has been known to be the difference between life and death[11,12]. But one of the most metabolic organ in the body and its role is poorly understood. So this study is one such novel effort. This study successfully finds the difference.

CONCLUSION:

This can be used as a prognostic tool. Majority of the study has been done in the east and none of them in this region. The pandemic is still not over and this study is one novel effort to find the difference so as to help the practicing physician to diagnose the severity earlier and be helpful in the treatment of the disease.

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