A Study of Mortality indicators of covid 19 in a tertiary hospital in Mangalore:

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Abstract:

Background:

The mortality rate is never understood completely but it in the range of 3 to 7 percent. 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 Acute inflammatory protein levels in the two groups.

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

Introduction:

The contagious property of the disease was found and it would be transmitted through droplet infection was later understood[1,2]. 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, diarrhea, multiple organ dysfunction[3]. Although some were being admitted with all these symptoms, others did not had 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 Acute inflammatory protein levels in the two groups.

Aims and Objectives:

To study the Acute inflammatory protein levels and their significance in Covid -19.

Materials and Methods:

This study is a retrospective study in the Department of Respiratory Medicine, Yenepoya Medical College, Mangalore.

This study was done using MRD files in Feb 2021.

Forty 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 co-morbidities were not selected to decrease the bias.
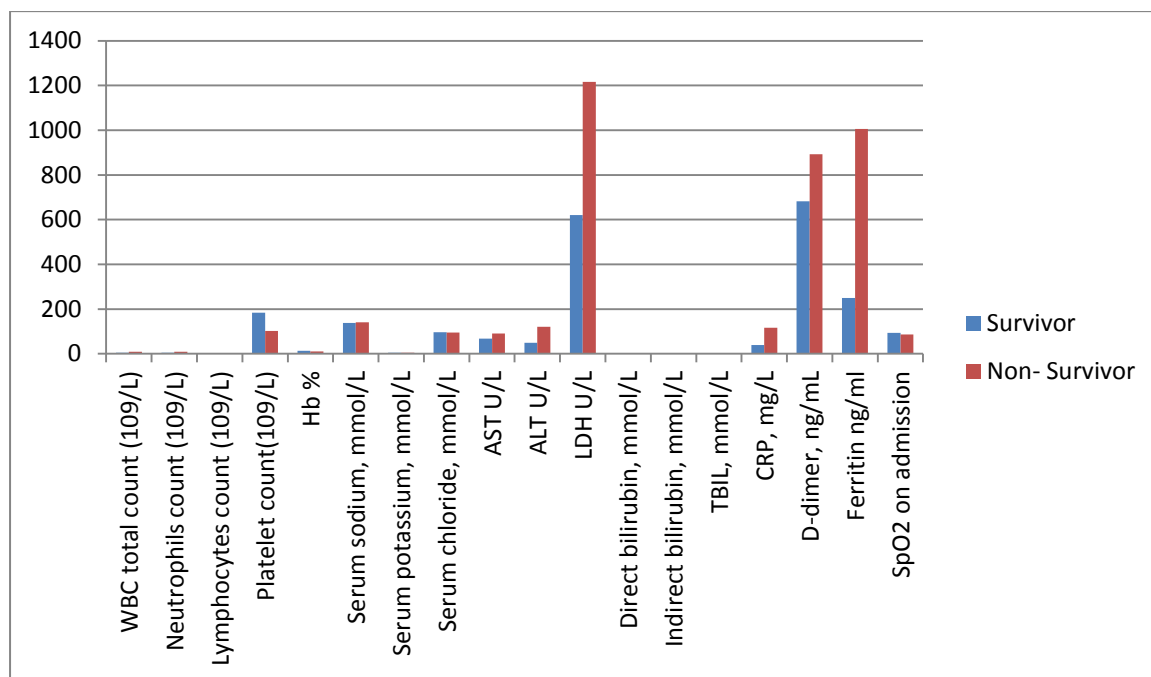
Patients with liver disease

Patients with 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 and Graph to describe the haematological and biochemical profile in survivors and non-survivors:**

Markers	Sig
WBC total count (10^9/L)	Not Sig
Neutrophils count (10^9/L)	<0.001 Sig
Lymphocytes count (10^9/L)	Not Sig
Platelet count(10^9/L)	<0.001 Sig
Hb %	Not Sig
Serum sodium, mmol/L	Not Sig
Serum potassium, mmol/L	Not Sig
Serum chloride, mmol/L	Not Sig
AST U/L	Not Sig
ALT U/L	Not Sig
LDH U/L	<0.001 Sig

Direct bilirubin, mmol/L	Not Sig
Indirect bilirubin, mmol/L	Not Sig
TBIL, mmol/L	Not Sig
CRP, mg/L	<0.001 Sig
D-dimer, ng/mL	<0.001 Sig
Ferritin ng/ml	<0.001 Sig
SpO2 on admission	Not Sig

Graph 1: to describe the haematological in survivors and non-survivors
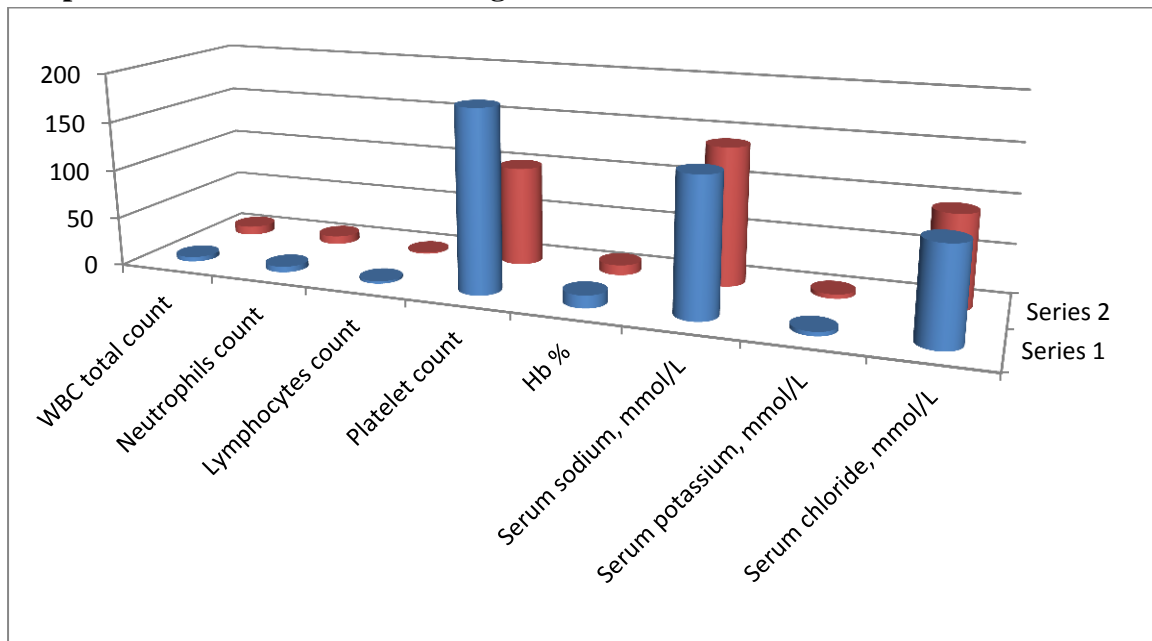
Graph 2: to describe the biochemical markers in survivors and non-survivors
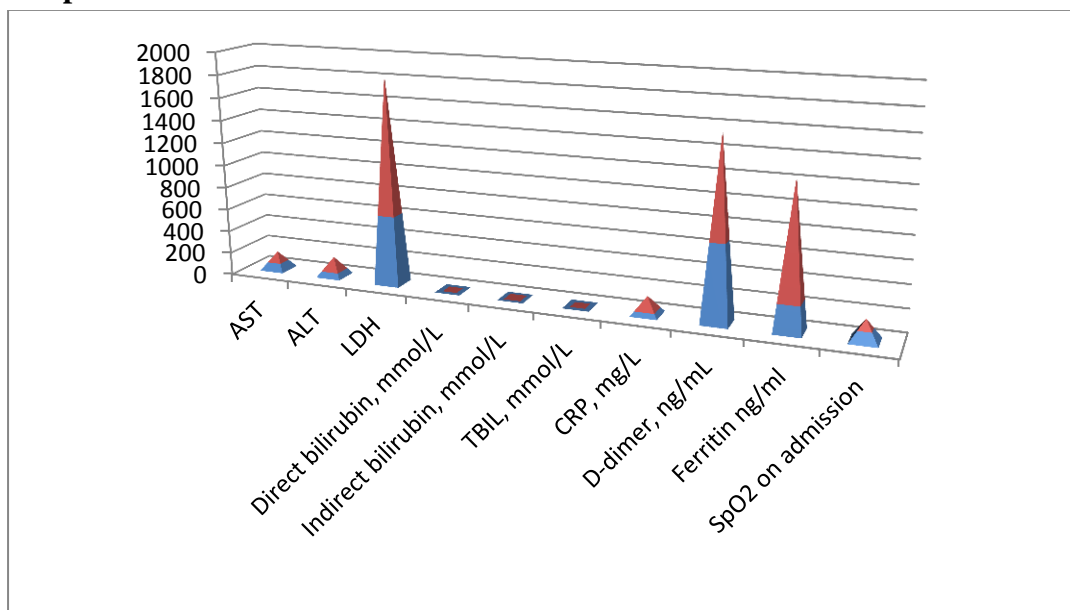
Discussion:

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 covers the importance to study 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 the 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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