"STUDY OF COAGULATION PROFILE DYNAMICS IN PATIENTS WITH COVID 19 INFECTION - A ONE YEAR CROSS SECTIONAL STUDY IN KLE'S DR.PRABHAKAR KORE HOSPITAL AND MEDICAL RESEARCH CENTRE, BELAGAVI."

BY

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Sub: Institutional Ethical Clearance for the study.

With reference to the above, we wish to inform you that your proposed research project titled **"STUDY OF COAGULATION PROFILE DYNAMICS IN PATIENTS WITH COVID 19 INFECTION – A ONE YEAR CROSS SECTIONAL STUDY IN KLE'S DR. PRABHAKAR KORE HOSPITAL AND MEDICAL RESEARCH CENTRE, BELAGAVI"**, is ethical and justifiable. The proposed research project has been cleared by the JNMC Institutional Ethics Committee on Human Subjects Research.

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ABSTRACT

Background: Thrombotic events such deep vein thrombosis, pulmonary embolism, myocardial infarction, and ischemic strokes have become more common in critically ill patients.

Material & Method: The patients that were received hospital care with COVID-19 infection were the subjects of the current cross-sectional study. Following enrollment in the study and completion of a questionnaire and comprehensive clinical examination, all patients meeting the inclusion criteria will be evaluated. The patient's outcome was evaluated based on the length of their hospital stay, how much oxygen they needed, how they were feeling when they were discharged, and whether or not they died.The coagulation profile included the platelet count, INR, aPTT, serum D-dimer, fibrinogen, other inflammatory markers like LDH, hs-CRP, Ferritin and IL-6. The data were analysed and tabulated with the SPSS 21v, with $p<0.05$ was considered statistically significant

Results: After receiving informed consent, The study covered 150 patients in total. The mean age of the patients was found to be 55.45yrs, among them 80.7% were male patients and 19.3% were female with male preponderance in the study. On assessment of the parameters between the outcome of patients, the CT severity score was significantly higher in patient with worst outcome as death compared to the patients discharged. Similarly, there was significant higher mean level of the ferritin in patients with worst outcome as death. The mean level of Fibrinogen, Homocysteine, D-dimer was significantly higher among the patients with worst outcome as death compared to patients discharged. There was significant higher

incidence of death among the patients with ISTH score >5 (75%) compared to patients discharged.

Conclusion: The present study documented the significant changes in the coagulation profile among the patients with worst outcome as death of the patients, also there is higher incidence of the inflammatory changes compared to the patients discharged from hospital. The ISTH score was found to be with good sensitivity and specificity to detect the worst outcome among the patients.

KEY WORDS: COVID 19, Coagulopathy, D-dimer, Fibrinogen, INR-APTT, Mortality

ABBREVIATIONS

ACE-2	ANGIOTENSIN-CONVERTING ENZYME 2 RECEPTOR
APTT	ACTIVATED PARTIAL THROMBOPLASTIN CLOTTING TIME
AUC	AREA UNDER CURVE
CFR	CASE FATALITY RATE
CRP	C-REACTIVE PROTEIN
CT	COMPUTED TOMOGRAPHY
HIF	HYPOXIA-INDUCIBLE FACTOR
ICU	INTENSIVE CARE UNIT
IRE	IRON-RESPONSIVE ELEMENTS
MERS	MIDDLE EAST RESPIRATORY SYNDROME
MPV	MEAN PLATELET VOLUME
PDW	PLATELET DISTRIBUTION WIDTH
PLCC	PLATELET LARGE CELL COUNT
PLCR	PLATELET LATGE CELL COUNT & RATIO
PLT	PLATELET COUNT
TMPRS	TRANSMEMBRANE PROTEASE SERINE
UTR	UNTRANSLATED REGION
WHO	WORLD HEALTH ORGANISATION
ISTH	INTERNATIONAL SOCIETY ON THROMBOSIS & HEMOSTASIS

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INTRODUCTION

In December 2019, the SARS-CoV-2 novel coronavirus disease spread around the globe. It first appeared in China before spreading fast elsewhere. The illness has been designated as COVID-19 by the International Committee on Virus Taxonomy (ICTV).

COVID-19's strong infectivity led in a quick surge in new cases, and the illness has spread internationally to 188 nations and six continents, making it a current global health burden. COVID 19 initially believed to be pneumonia has now believed to have a much more diverse spectrum of disease. “COVID is a coagulopathy’’ is now the new understanding as multiple studies worldwide have confirmed the vasculopathy associated with this infection.

The frequency of thrombotic events include deep vein thrombosis, pulmonary embolism, myocardial infarction, and ischemic strokes has increased in critically ill patients. Although clinical observations of thromboembolic events have been made, the precise mechanism is yet unknown.

Multiple studies done in China, United States, England and Spain have suggested a positive correlation between rise in inflammatory markers and deranged D-dimer Fibrinogen PT INR and APTT, Other- (coagulation profile markers) in patients and determined their relation to the predictable prognosis of the patients. The studies also suggest the use of effective Anti Coagulation Therapy in patients to minimise the risk of complications.

The novel SARS COV2 virus has a very significant effect on the vasculature of the human body reflecting as dynamic changes in the coagulation profile and possibly indicating the prognosis of the patient.

Because India has the world's second most affected population, a comprehensive analysis of the Coagulation profile dynamics in our population is required to understand clinical management of our patient population and provide adequate medication and prophylaxis. Thromboprophylaxis is a very dynamic intervention which needs an individualistic approach with a broad understanding of the vasculopathy, clinical presentation, associated co-morbidities and multiple factors.

COVID-19 thrombotic syndrome is an evolving spectra which needs in depth study and analysis in order to achieve optimum therapeutic goals, improve prognosis, minimise post infection complications and device a good predictive scoring system to predict this elusive and complex coagulopathy.

OBJECTIVES

- To study the coagulation profile in patients with COVID 19 infection.
- Analyse the risk of thrombotic and thrombo-embolic events.
- Draw a comparison to the clinical outcome &
- Device an effective thromboprophylaxis for patients to prevent further complications of the infection.

REVIEW OF LITERATURE

Novel corona viruses are becoming important diseases for both humans and animals.[1] End of 2019 saw the discovery of a novel corona-virus as the cause of an outbreak of pneumonia cases in Wuhan, Hubei Province, China. As a result of its rapid growth, China saw an epidemic and a rise in cases worldwide.[2] The World Health Organization (WHO) designated the disorder as COV-19, which represents for coronavirus disease 2019. The SARS-CoV-2 virus is what causes COV-19 (2019-nCoV). On March 11, 2020, the WHO proclaimed COV-19 to be a pandemic. [3]

Epidemiology

On December 31, 2019, Wuhan, Hubei Province, China reported the first case of SARS CoV-2 infection.

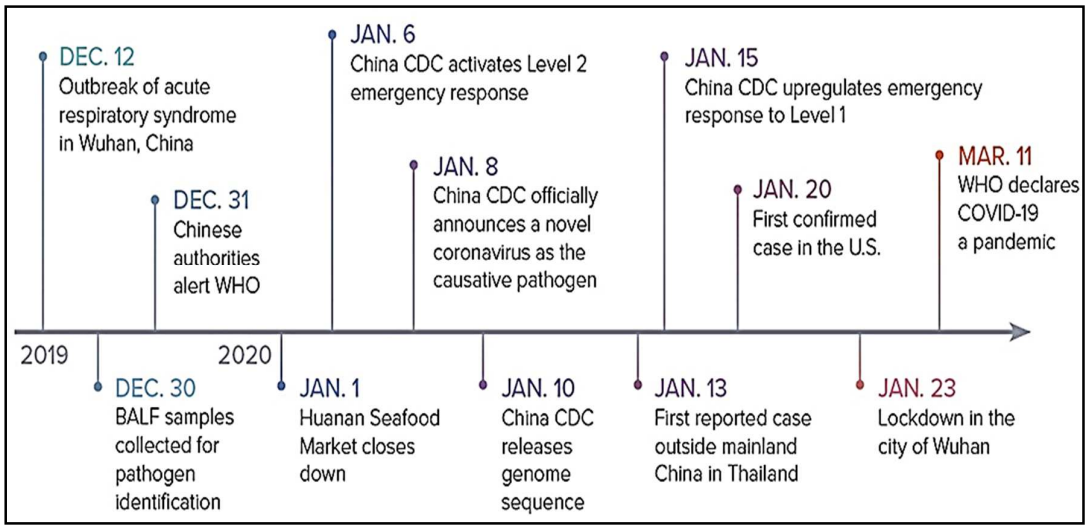


Figure 1: Timeline 0f COVID-19[4]

From this, it swiftly expanded throughout China and internationally, infecting over 185 countries as 0f April 23, 2020, culminating in the current global pandemic. COVID-19 was declared a Public Health Emergency 0f International Concern by the

World Health Organization on January 30, 2020, and on March 11, 2020, a pandemic status was given to it.

Its extremely contagious nature is shown by the fundamental replication number (R0) of SARS CoV-2, which is predicted to be between 1.4 and 3.9. In public gathering venues like cruise ships, religious, political, intellectual, and corporate congregations, as well as hospitals that do not adhere to personal privacy protections, the R0 may be deemed to be significantly greater. Expected are the incubation duration and serial interval to be 5–6 days and 8 days, respectively, in comparison to SARS CV and MERS CV. [5] The case-fatality rate (CFR) for the pandemic was predicted to range between 0.9 and 3 percent early on., which was lower than that of previous HCVs (SARS CV (6 percent -17 percent) and MERS CV). However, by the 24th of May 2020, the CFR had climbed exponentially in many countries.

In contrast to SARS CoV, a significant portion of SARS CoV-2 carriers have asymptotic or pauci-symptomatic signs, making them easy to spot and prospective carriers.[6] It is crucial to remember that not all clinical contacts get infected, suggesting that genetic susceptibility varies among individuals.[7,8] Normally, the virus enters people through the upper respiratory tract. SARS CV-2 was recently isolated from patient faeces, indicating the possibility of fecal-oral transmission.[9,10]

Women who are pregnant and infected with SARS CV-2 are more likely to transmit the disease vertically. Vertical transmission was ruled out due to negative viral testing on swabs obtained from the six infected pregnant women's amniotic fluid, cord blood, neonate pharynx, and breast milk.[11] Long-distance airborne transmission is also postulated, which is reliant on the virus's flow dynamics as well as the ventilation state 0f the location.[12] Furthermore, mapping techniques like as cartograms

can be used to depict the dissemination and expansion of COVID-19.[13] Understanding the SARS CoV-2 transmission routes will enable the implementation of suitable containment measures.

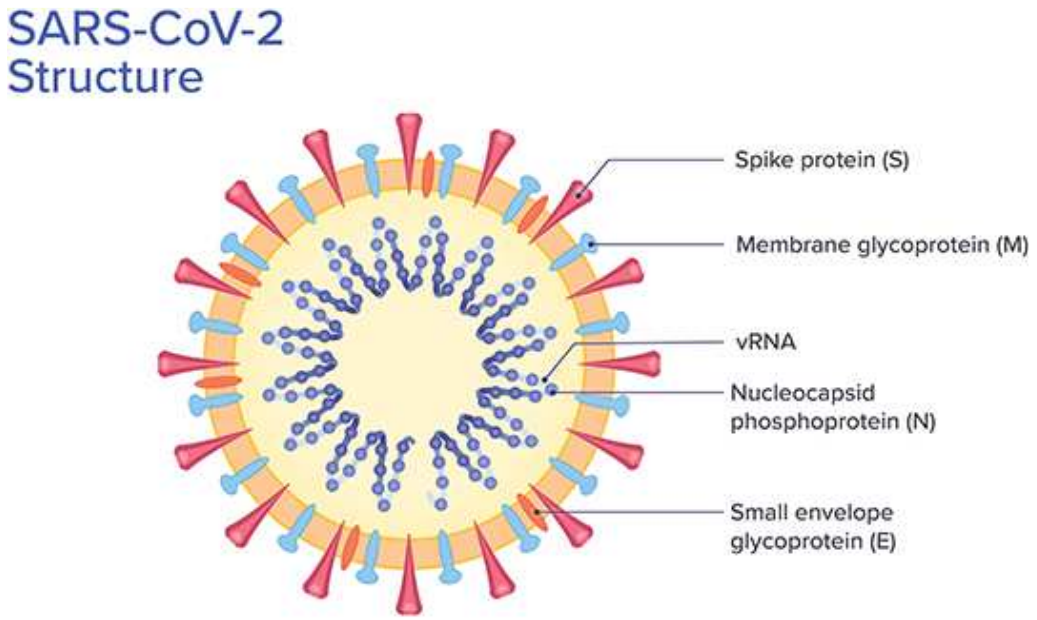


Figure 2: COVID-19 virus structure[4]

SPIKE PROTEIN: The cascade of inflammation is started by the binding of spike protein with the ACE 2 receptor of alveolar cells. Receptor TMPSR2 cleaves the spike protein releasing the S2 component which invokes the immune response and enters the cell and replicates.

As the virus replicates there is more fusion of new virion and the inflammatory and immune response evoked by the S2 SPIKE PROTEIN magnifies and induces the cytokine storm. This exaggerated immune response marks the beginning of acute inflammatory state and provokes a disseminated intravascular coagulopathy. Antibodies of the COVID vaccine were designed to S2 spike protein

there by attenuating the initial fusion of virion and replication and in turn supressing the inflammatory cascade.

Children had a lower incidence of serious illness and death from SARS CV-2 infection, despite the fact that all age groups are susceptible to infection.[14] Women often experience less adulthood-related effects than men because of higher plasma ACE2 levels.[15] The older population, especially those with co-morbidities such diabetes, hypertension, stroke, and chronic lung, heart, or renal disease, are more prone to serious infections because of weak body defence against infection and underlying age-related organ system breakdown. [16,17] According to a recent study, group A of non-blood viruses, like SARS CoV, had greater infection and mortality rates from COVID-19 because there were insufficient protective anti-A IgM antibodies. Many aspects of the SARS CoV-2 epidemiology are still unknown, such as how the virus and human host interact, how susceptible humans are, and how the epidemic spreads. [18,19]

The two main categories of Corona viruses (CoVs) are and (found in both humans and other animals); α and β (seen in avian species). Due to the presence of spike protein in their envelop, they resemble to a crown in electron microscopy, hence their Latin name "coronam." With respiratory, gastrointestinal, hepatic, and central nervous system infections, they are able to infect avian and mammalian species, including humans. According to estimates, 2% to 4% of the population has Corona viruses in a healthy state, and 5% to 10% of acute respiratory infections are brought on by these viruses.

It is hypothesised that these viruses undergo rapid mutation and recombination as they move from natural host tissues to humans via an intermediary amplifying host, leading to the creation of more virulent CoVs that cause human sickness. Novel CoVs have resulted in pandemics with pulmonary and extra-pulmonary symptoms, including severe acute respiratory syndrome (SARS - SARS CoV) in China in 2002–2003 and Middle East respiratory syndrome (MERS - MERS CoV) in Saudi Arabia in 2012. The most common way that CoVs are discovered in children is as a co-infection with other respiratory viral infections, but they can also be the major pathogen causing infection in kids with underlying chronic conditions.Because of this, CoVs have become crucial pathogens in rising outbreaks of respiratory disease.

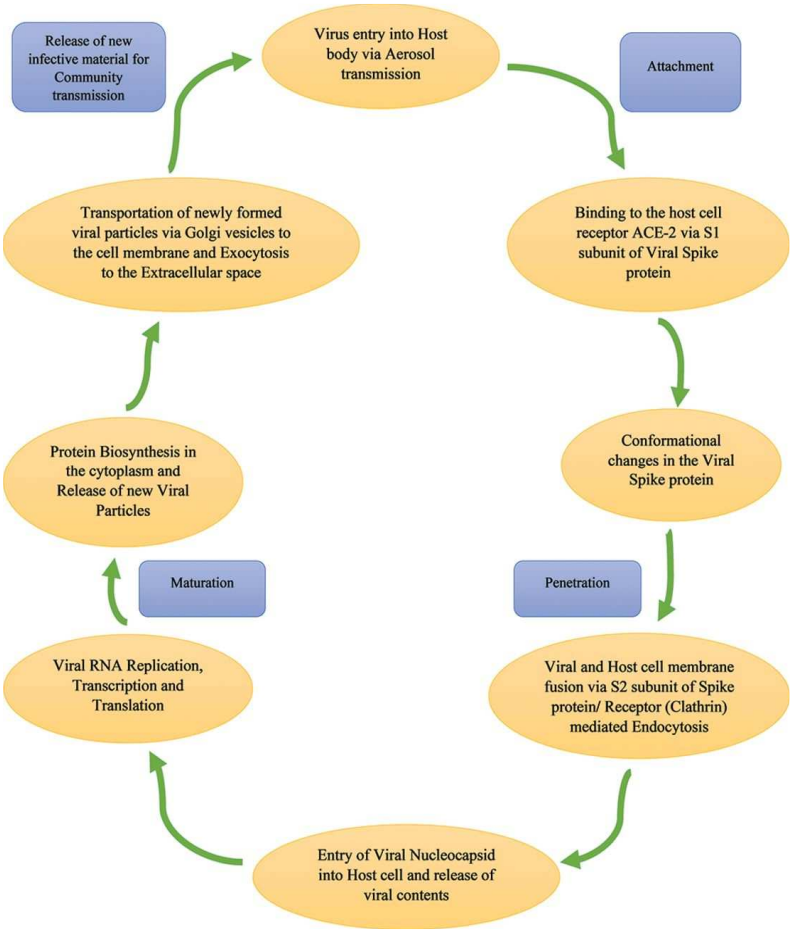


Figure 3: Life cycle 0f the Corona virus[20]

Pathogenesis and Coagulopathy of COVID -19 infection

COVID 19 infection is a multi systemic illness multiple pathological processes involving host immune responses, inflammation and disseminated coagulation. Important factors are over activation of immune cells, cytokine storm and excessive oxidative stress which are common pathophysiological mechanisms of ARDS, sepsis, DIC and multi organ failure. Hypercoaguable state of Covid-19 infection is multifactorial and causes micro and macro thrombi in arteries and veins predisposing to increased risk of deep vein thrombosis ,pulmonary embolism, strokes ,peripheral vascular disease, myocardial infarctions and disseminated intravascular coagulopathy.

4 CHEIF MECHANISMS OF VASCULOPATHY AND COAGULOPATHY IN COVID-19

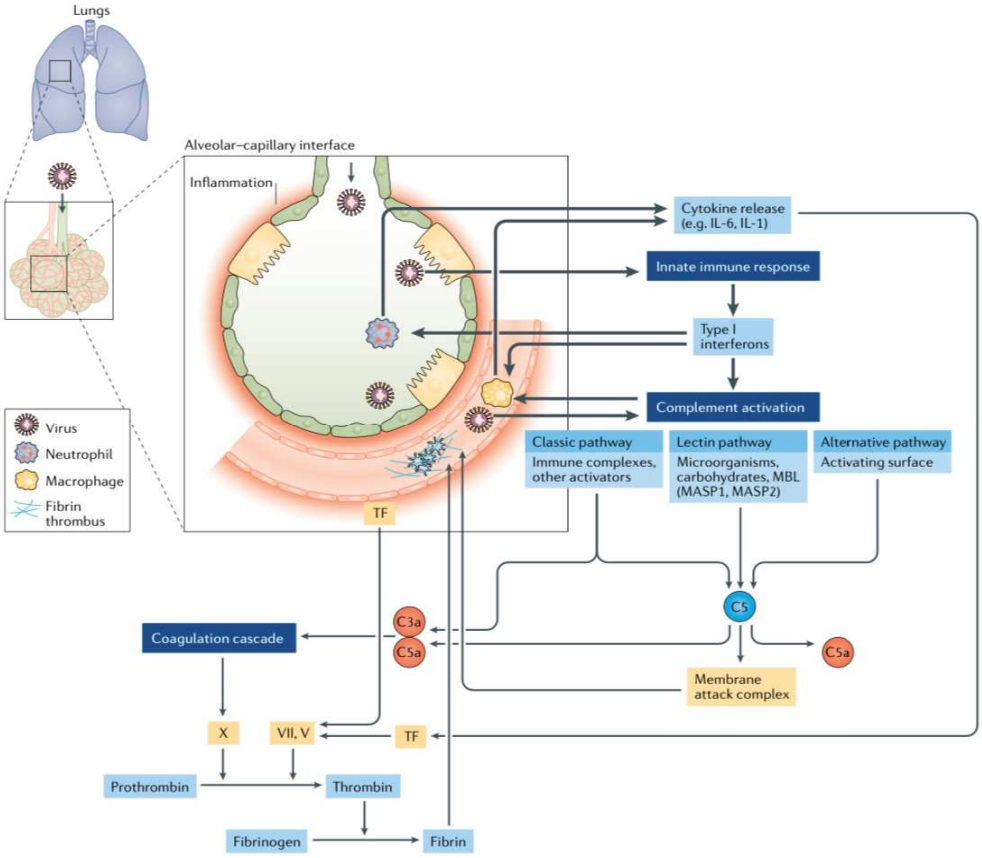
Cytokine Storm-acute inflammatory response and complement pathway activation

ACE 2 deactivation by the virion particles

Severe endothelial dysfunction, persistent hypoxia and vascular stasis

Postulated mechanisms like Lupus anticoagulant activation, Fibrinogen activation, on Willebrand factor activation and plasminogen activator inhibiton.

VIRUS ENTRY PORT AND INITIATION OF CYTOKINE STORM:



The highly glycosylated spike (S) protein S1 fragment with receptor binding domain (RBD), which binds to the angiotensin-converting enzyme 2 receptor (ACE-2 R) with 10–20 fold greater affinity than SARS CoV, is thought to be the mechanism by which SARS CoV-2 would infect human cells.21 The majority of ACE-2 R is found in type II rather than type I human alveolar epithelial cells (type II > type I). 22–24 Endothelial cells, gastro-intestinal (esophageal and intestinal) epithelium, and cardiac myocytes all express the ACE-2 R. 25 Transmembrane proteases serine (TMPRSSs) expressed in host cells recognise and cleave the SARS CoV-2's unique polybasic S1/S2 protease cleavage site on the spike protein in order to release the fusinoid protein (S2 fraction), causing the membranes of the virus and host cell to fuse. It has been established that ACE-2 R and TMPRSSs are strongly exhibited in

upper esophageal epithelium, absorptive enterocytes, and alveolar type 2 pneumocytes, demonstrating that SARS CoV-2 can enter the human body through these epithelial types as well as alveolar epithelium. 5

As a result, TMPRSSs and ACE-2 R should be present in potential SARS CoV-2 target tissues. This membrane fusion enables viral RNA to be taken up and translated to produce new viral proteins in the cytoplasm of the host cell. Viral assembly, which involves nucleocapsid (N) proteins adhering to RNA molecules and being surrounded by envelope and membrane proteins to form whole viruses capable of infecting other cells, is the penultimate stage before viruses are discharged from infected cells.

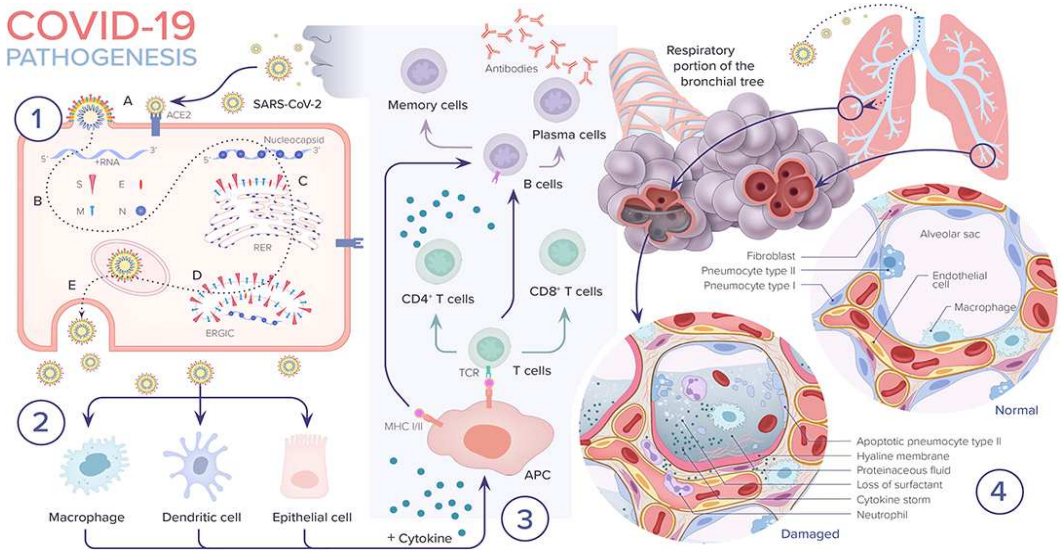


Figure 4: Pathogenesis 0f COVID-19 infection[4]

Type II pneumocytes, which are responsible for tissue healing and surfactant production, are killed as a result of SARS CoV-2 infection, leading to an increase in surface tension and dyspnea. Due to an excess of cytokine production and release (cytokine storm) by activated inflammatory cells as a result of an accumulation of

angiotensin II, these injured type II pneumocytes impair the alveolar immune system's ability to operate.

Renin angiotensin system - COVID-19 & pro-coagulant state

The renin-angiotensin-aldosterone system (RAAS) is influenced by SARS-CV and SARS-CoV-2 via the enzyme ACE2, which also serves as a receptor for both viruses and normally lowers RAAS activity. In the RAAS, ACE converts angiotensin I to angiotensin II. The Angiotensin II type 1 receptor is how Angiotensin II exerts its vasoconstrictory and pro-inflammatory actions (AT1R). A multitude of functions, including vasodilation and anti-inflammatory properties, are stimulated when angiotensin II is converted into angiotensin I-7 by ACE2. Additionally, ACE2 converts angiotensin I into angiotensin I-9, which is then converted by ACE into angiotensin I-7. By removing Angiotensin II and stimulating the synthesis of Angiotensin I-7, ACE2 reduces the harmful vasoconstriction and pro-inflammatory effects of Angiotensin II.[4]

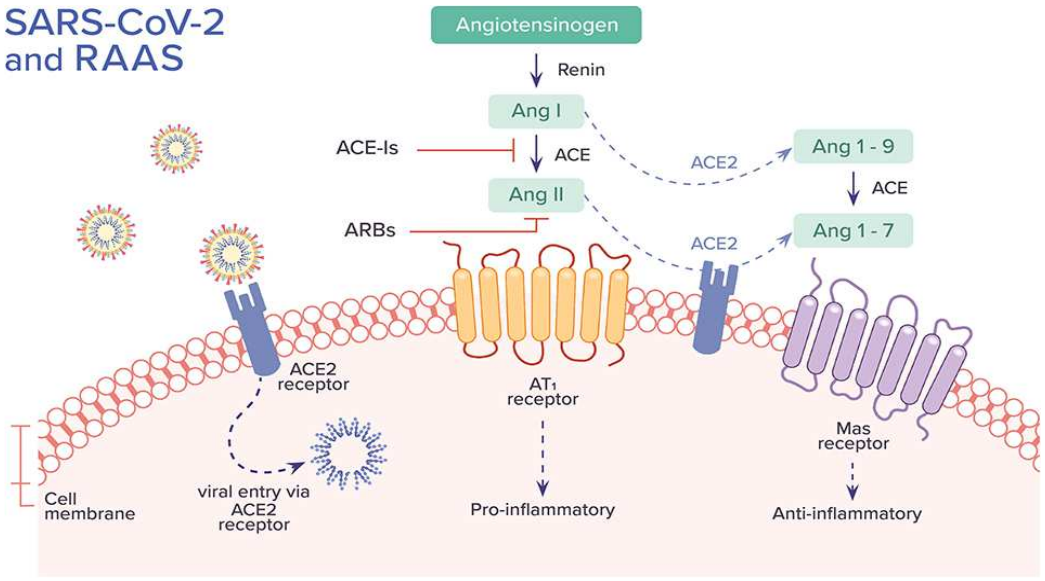


Figure 5: Relation 0f RAAS and SARS-CoV-2[4]

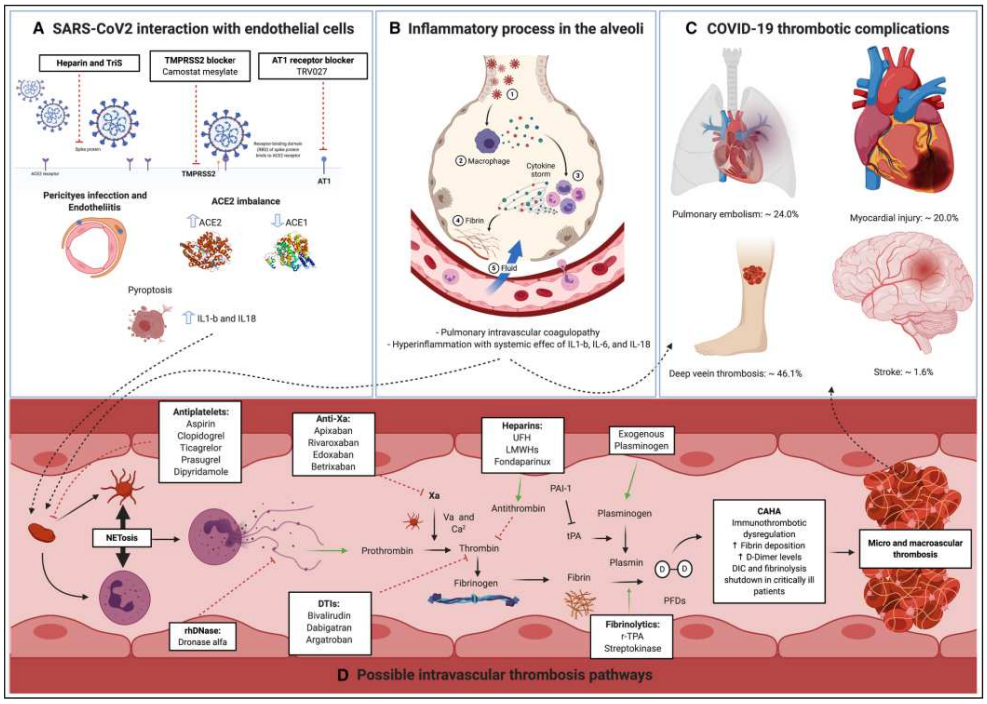
SEVERE ENDOTHELIAL DYSFUNCTION: Due to the potent pro inflammatory state there is a endothelial dysfunction “endothelitis” which in turn increases the risk of coagulation by triggering the cascade. As COVID -19 in its initial stages behaves like a acute respiratory illness it predisposes to a relative hypoxic state which further increases the risk of coagulation’s per the pathophysiology of this coagulopathy it appears that the virus in turn disturbs the micro environment of haemostasis and causes macro and microangiopathy.

With a backround of co-morbidities like diabetes, hypertension, dyslipidemia vascular disorders which potentially worsen endothelial function, predispose to this vasculopathy and can be fatal.

COAGULOPATHY HYPOTHESIS-Multiple other mechanisms like direct activation of lupus anticoagulant activity and direct fibrinogen activation were postulated which would induce a pro thrombotic state, however the trial studies had insufficient data and were were inconclusive.

Plasminogen activator inhibitor plays a key role in regulating fibrinolytic activity. Impaired fibrinolysis or fibrinolysis shutdown has been demonstrated by thromboelastography studies in covid 19 patients postulating that the virus can inhibit Plasminogen activity.

Von willibrand factor is a multimeric protein involved in platelet adhesion and hemostasis was found to be elevated in patients with COVID 19 predisposing to thrombosis. Therefore the conclusion of this pathogenesis was that the exact mechanism remains unknown. The coagulopathy is complex and multifactorial and almost similar to the pathophysiology of sepsis associated disseminated coagulopathy.



Transmission

In observational studies of home transmission before the development of variants, the secondary attack rate ranged from 4 to 57 percent.[26–31] A meta-analysis 0f 87 home transmission studies including 1,249,163 household links from diverse nations showed that the secondary attack rate among adult contacts was 30%. Variations that are more transmissible boost household transmission rates. The secondary attack rate in adults was 90% in a study of family clusters during the dominant circulation of the Alpha (B.1.1.7 lineage variant). 32,33

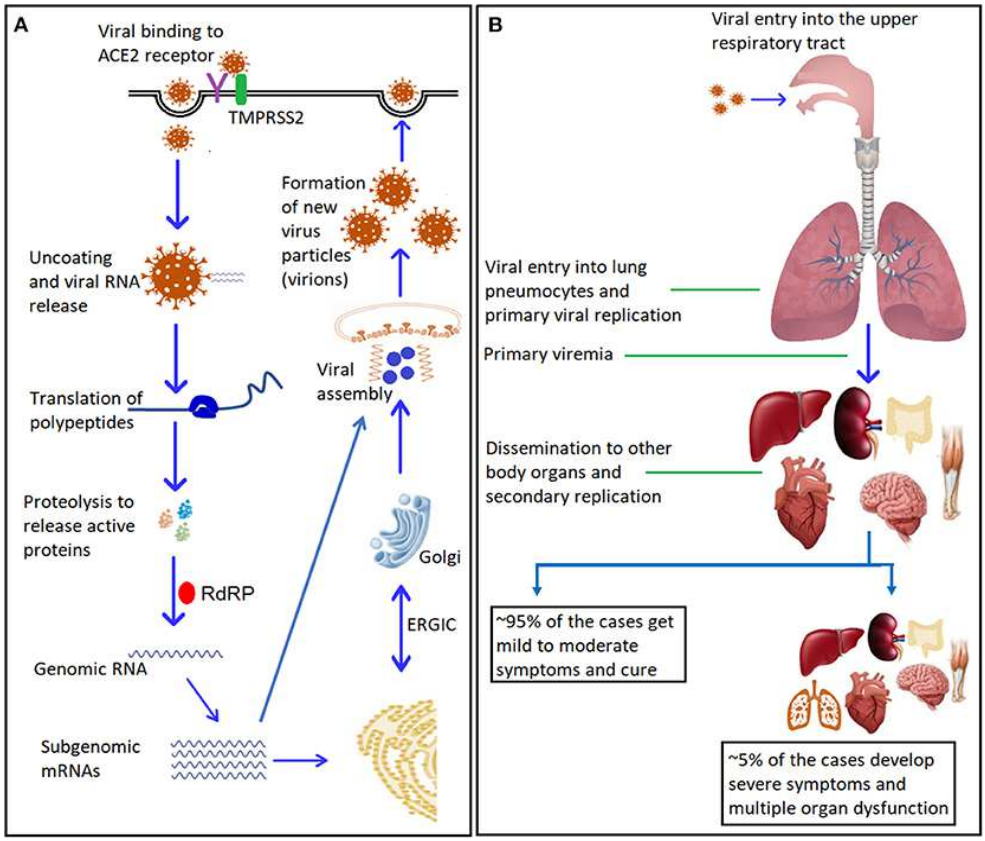


Figure 6: Transmission and entry 0f COVID-19[35]

There have also been reports of epidemics involving the provision of healthcare, as well as instances of potential transmission from educators to students and children in educational settings. 36–39 According to a case-control study, irregular mask use at school was linked to SARS-CV-2 infection but not to attendance. 34

Although nothing is known about SARS-CoV-2 transmission to households in contact with confirmed asymptomatic SARS-CoV-2, transmission to asymptomatic (as opposed to presymptomatic) persons has been documented. 40 Additionally, reports of familial clusters with asymptotic persons as well as possible transmission from asymptomatic individuals to family members have been made. 40–43 According to these data, asymptomatic patients may play a part in transmission.44,45

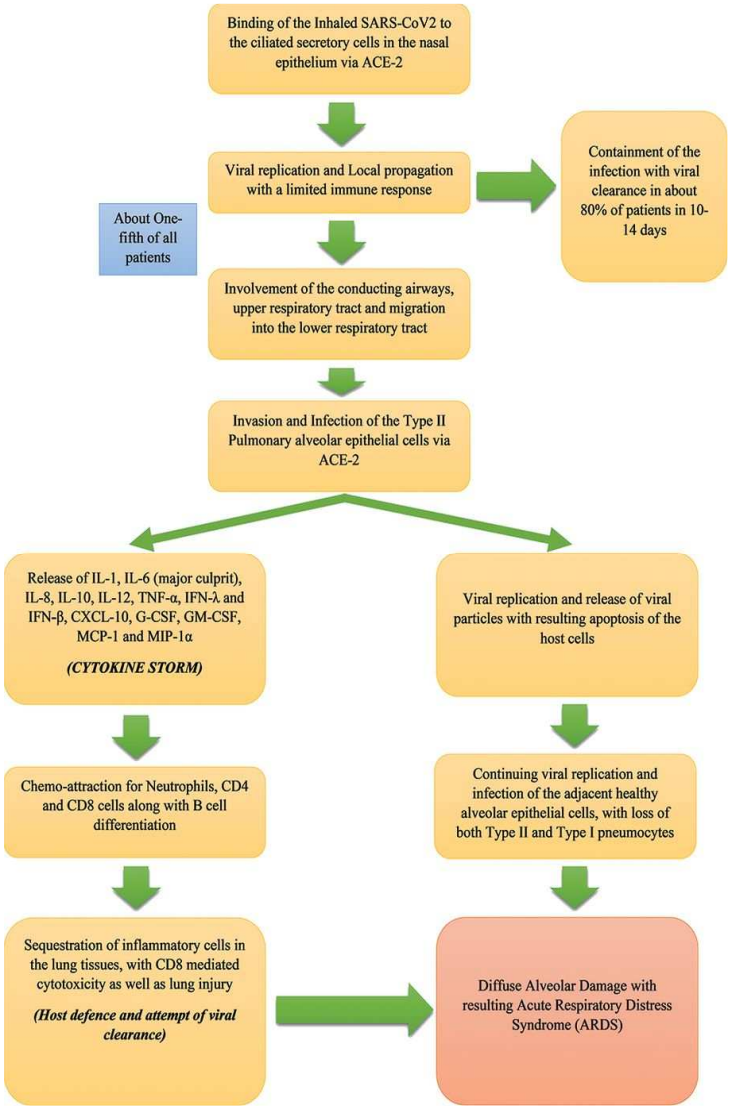


Figure 7: Pathophysiology 0f COVID-19[20]

Clinical presentation

The most common representative symptoms among people with symptomatic COVID-19 are cough, myalgias, and headache. Other characteristics include the presence of diarrhoea, severe vomiting, abnormal smell, or abnormal taste. The most common type of infection, pneumonia, is characterised by fever, coughing, dyspnea, and bilateral infiltrates on chest imaging.

Symptoms	Percentage (%)
Fever	88.7
Cough	67.8
Fatigue	38.1
Sputum production	33.7
Shortness of breath	18.7
Myalgia or arthralgia	14.9
Sore throat	13.9
Headache	13.6
Chills	11.5
Nausea or vomiting	5
Nasal congestion	4.8
Diarrhea	3.8

Severe complications:

The complications described as

Respiratory failure

Cardiac and cardiovascular complications

Thromboembolic complications

Neurologic complications

Inflammatory complications

Secondary infections

Infection fatality rate

Only the mortality rate in reported instances is represented by the case fatality rate. Because many severe acute respiratory syndrome infections are asymptomatic and many mild infections go undiagnosed, the SARS-CoV-2 fatality rate (i.e., the estimated mortality rate among all infected individuals) has been estimated in some analyses of unvaccinated individuals to be between 0.15 and 1%, with significant heterogeneity by location and risk group. 46

Using prevalence surveys or extensive tracking programmes, 27 research from resource-rich environments that determined the total number of community infections up to September 2020 were systematically reviewed and meta-analyzed. that the infection fatality rate would rise exponentially by age (0.002 percent at age 10, 0.01 percent at age 25, 0.4 percent at age 55, 1.4 percent at age 65, 4.6 percent at age 75, 15 percent at age 85, and >25 percent at age 90 years). The majority of the geographic variation in infection mortality rates appears to be explained by these age-related variations (i.e., locales with higher median population ages reported greater fatality rates). [47]

Risk factors for severe illness

Although it can affect otherwise healthy people of any age, severe illness is more common in those over the age of 65 or in those who have specific underlying medical conditions. Severe illness has also been connected to certain demographic traits and aberrant test results.

Numerous predictor tests have been designed to identify patients who are more likely to have severe illness based on epidemiological, clinical, and laboratory

features; however, the majority of studies evaluating these tests are constrained by the possibility of bias and they haven't been sufficiently validated for clinical management. Increasing age

- Comorbidities
- Socioeconomic background and gender

Laboratory findings

The findings 0f laboratory are variable. In meta-analysis, the data 0f following laboratory abnormalities were noted down

- Elevated serum ferritin: 47%
- Elevated C-reactive protein: 54%
- Elevated D-dimers: 35%
- Elevated lactate dehydrogenase: 37%
- Elevated procalcitonin: 21%
- Elevated laukocytes: 20%
- Elevated erythrocyte sedimentation rate: 19%
- Lymphocytosis: 8%
- Lymohocytopenia: 19%
- Elevated creatine kinase myocardial bands: 25%
- Elevated serum aminotransferases: 30%

Abnormality	Possible threshold
Elevations in:	
D-dimer	>1000 ng/mL (normal range: <500 ng/mL)
CRP	>100 mg/L (normal range: <8.0 mg/L)
LDH	>245 units/L (normal range: 110 to 210 units/L)
Troponin	>2× the upper limit 0f normal (normal range for troponin T high sensitivity: females 0 to 9 ng/L; males 0 to 14 ng/L)
Ferritin	>500 mcg/L (normal range: females 10 to 200 mcg/L; males 30 to 300 mcg/L)
CPK	>2× the upper limit 0f normal (normal range: 40 to 150 units/L)
Decrease in:	
Absolute lymphocyte count	<800/microL (normal range for age =21 years: 1800 to 7700/microL)

Figure 8: Laboratory findings associated with severity 0f COVID infection[16,17,48,49]

Various studies with Emerging evidence 0f COVID 19 thrombotic syndrome has treatment implications

To evaluate the prevalence of anticoagulant, coagulant factors, and antiphospholipid antibody in critically sick patients, Zhang Y et al. conducted a study. There were anti-phospholipid antibodies in ten of the people. Raised D-Dimer (100%), a prolonged prothrombin time (73.7%), and hyperfibrinogenemia (73.7%) were routine coagulation test abnormalities. The median activity of natural anticoagulants, including protein C, protein S, and antithrombin, was below the normal range. All patients displayed significantly above-normal factor VIII activity (median value 307%, interquartile range 198–441). The activity of factors V and VII

was significantly lower in those who were nearing the end of their lives. Unexpectedly, four incidences of cerebral infarcts were linked to individuals who had anti-phospholipid antibodies of various subtypes. Sustained hypercoagulability and thrombotic events were common in extremely ill CVID-19 patients. High Factor VIII levels, the presence of antiphospholipid antibodies, and natural anticoagulant activity may all contribute to the clogging of the arteries in people with CVID-19. 50 In order to determine the clinical importance of the dynamic neutrophil to lymphocyte ratio and the d-dimer in people with CVID-19 infection, Jianhong F et al. conducted a study. When compared to the mild/moderate group, the severe group's WBC, neutrophil to lymphocyte ratio (NLR), D-dimer, and fibrinogen levels were all considerably greater ($P<0.05$), but lymphocyte levels were lower. According to the RCT, the AUC for hematological parameters was higher than for inflammatory variables. Between the two groups on day one, there was a significant difference in lymphocyte and fibrinogen levels (P 0.05). However, on days 1, 4, and 14 both NLR and D-dimer levels were higher in the severe group compared to the mild/moderate group (P0.01) (P0.05). Hyperfibrinogenemia, lymphopenia, D-dimer elevation, and leukopenia were the most common CVID-19 abysmal hematological parameters upon arrival and varied considerably across the mild/moderate and severe CVID-19 groups. Additionally, it is possible to discriminate between severe and mild CVID-19 individuals based on the dynamic shift in NLR and D-dimer levels.[51]

To evaluate the haematological features and risk factors for pregnancies in CVID patients, Liao D et al. conducted a study. Rapid blood tests can help doctors assess the severity and prognosis of COVID-19 patients. These tests include platelet count, prothrombin time, D-dimer, and neutrophil to lymphocyte ratio. The sepsis-

induced coagulopathy score system can be used to evaluate and treat people who are critically unwell at an early stage. [52]

Researchers Tang N et al. conducted a study to see if reduced coagulation parameters are related to pregnancies in patients with coronavirus pneumonia. The D-dimer and fibrin degradation product (FDP) levels in non-survivors' admissible samples were significantly higher, and their prothrombin time and activated partial thromboplastin time were longer (P<.05); 71.4% of non-survivors and 0.6% of survivors met the criteria for disseminated intravascular coagulation disease. According to the results of the current investigation, abnormal coagulation readings—notably noticeably high D-dimer and FDP—are associated with NCP fatalities. [53]

Garcia-Olive I et al. conducted a research to analyse the D-dimer in COVID-19 infected individuals and its result. Patients with higher D-dimer levels and those who needed intubation were more likely to develop PE. With odds ratios of 1.7, 2.0, 2.4, and 2.4, respectively, higher D-dimer levels were linked to a higher likelihood of PE three, six, nine, and twelve days after D-dimer levels were measured. Finally, people infected with COVID-19 who require OTI and have higher D-dimer levels are more likely to suffer PE.[54]

In a study by Ranucci M et al., fibrin lysis biomarkers and thrombin generation were used to evaluate the CVID-19-associated gastrointestinal disease. A thrombin burst and subsequent coagulation activation define severe COVID-19 ARDS patterns. The mechanisms 0f fibrinolysis control appear to be skewed toward inhibiting fibrinolysis. This tendency improves in survivors while worsening in non-survivors.[55]

Samkari HA et al. conducted a research to examine COVID-19 and coagulation abnormalities in patients. ESR, CRP, fibrinogen, ferritin, and procalcitonin levels were higher in patients with thrombotic issues than in those without. DIC, clinically significant thrombocytopenia, and low fibrinogen levels were all unusual and were associated with severe bleeding symptoms. Given the reported bleeding rates, randomised studies are necessary to establish whether enhanced anticoagulant prophylaxis may help COVID-19 patients.[56]

Luo HC et al. carried out a study to learn more about the characteristics of coagulation change in COVID-19 patients. A multivariate logistic analysis revealed an independent relationship between mortality and PT-act 75%. To predict death at the time of admissibility, one can use the area under the PT-act, D-dimer, and FDP receiver operating characteristic curves. The AUCs for PT-act, D-dimer, and FDP did not differ statistically significantly from one another. After taking the drug for two weeks, the coagulation levels of the survivors improved. Typically, a hormonal imbalance is linked to COVID-19. PT-act levels, D-dimer levels, and FDP levels can all be used to predict mortality in COVID-19 patients. PT-act 75% is associated with death on its own. 57

MATERIALS AND METHODS

MATERIAL:

Source of study: COVID 19 patients admitted in the isolation wards and intensive care units at KLE`S Dr. Prabhakar Kore Hospital and Medical Research Centre, Belagavi.

Study Design: A Cross sectional study.

Study Period: 1 year.

Sample Size: 150

Sample Size Calculation:

. The prevalence rate-based formula for the minimal sample size is

$$n = \frac{z_\alpha{}^2 P(1-P)}{d^2}$$

where d is the expected difference in prevalence and P is the prevalence percentage. z_α is linked with the level of significance. For 5% level of the significance $z_\alpha = 1.96$.

Ref:

With P = 56.3% and d = 20% of P = 11.26%, the minimum sample size is 150.

Inclusion criteria

- Age ≥18 years.
- COVID -19 positive patients confirmed by RT-PCR/Rapid Antigen Test (RAT).

Exclusion criteria

- Pregnant Female patients
- End stage liver disease
- Long term Anti coagulation therapy
- Anti Folate Medication

METHODOLOGY

- Informed consent was obtained and then patient was enrolled for the study.
- All patients fulfilling the inclusion criteria was enrolled in the study then subjected to a questionnaire and thorough clinical examination.
- Only a confirmed case of COVID-19 that is a positive result on RT-PCR /RAT of nasal and pharyngeal swab specimens were taken into the study.
- At admission the respiratory rate, saturation at room air and requirements of oxygen delivery device or ventilation were noted.
- qSOFA score is a mortality predictor scoring system calculated by considering respiratory rate , blood pressure and mental status was calculated at the time of admission.
- All laboratory investigations including routine, coagulation profile, inflammatory markers were sent on the day of admission were taken into the study data.

- D-dimer and platelet count was repeated at 72 hrs of admission to study their variation during the course of treatment and hospital stay.

- CT thorax severity score (measured out of 25) on the day of admission was noted.

- Vaccination status with COVISHEILD VACCINE only were also noted.

- The patient's outcome was evaluated based on how long they stayed in the hospital, oxygen requirement and mode of ventilation, supportive medications and requirement of throboprophylaxis ,steroids, immunosupressives and fibrinolytics.

- During the course of hospital stay clinical outcome was also assessed on the basis of evidence of any thrombotic or thromboembolic event like deep vein thrombosis, pulmonary embolism ,stroke, myocardial infarction , disseminated intravascular coagulopathy or critical illness ARDS, sepsis or acute kidney injury.

- ISTH (International Society of Thrombosis & Hemostasis) scoring system is a score to assess coagulopathy which considers platelet count, fibrinogen level ,PTINR and D-dimer and is expressed as <5 or >5 .This score was calculated from the study data to co-relate with the clinical outcome of the patients included in the study

Variable	Value	Points
Platelets, K/μL	>100	0
	50-100	1
	<50	2
INR	<1.3	0
	1.3-1.7	1
	>1.7	2
D-Dimer, ng/mL	<400	0
	400-4000	2
	>4000	3
Fibrinogen, mg/dL	>100	0
	<100	1

Abbreviations: DIC, disseminated intravascular coagulation; INR, international normalized ratio; ISTH, International Society on Thrombosis and Haemostasis.

SCORE OF >5 is suggestive of overt DIC

Investigations for the study purpose

Following Laboratory investigations will be considered-

A) **Basic Investigations**-

1. Complete blood count

2. Random blood sugar

3. Blood urea

4. Serum Creatinine

5. Liver function test

B) **COVID Profile**

COAGULATION PROFILE

PT INR

APTT

Serum D-dimer

Serum Fibrinogen

Platelet count

INFLAMMATORY MARKERS

1) LDH.
2) Sr. Ferritin,
3) hs -CRP.
4) IL-6.
5) Sr. Procalcitonin

RADIOLOGICAL INVESTIGATION:

HRCT-THORAX: CORADS SCORE out of 25

STATISTICAL ANALYSIS

This was an observational research, the analytic plan was as follows.

The mean and standard deviation of the continuous quantitative variables were computed. If the data is separated into two groups based on a certain qualitative trait, the continuous variables were compared using appropriate statistical methods such as the student's unpaired t test. Rates, ratios, and percentages were used to convey categorical data. The association between the result, clinical, and demographic factors was evaluated using the Chi-square test, test of proportion, or Fisher's exact test. For all tests, a p value of less than 5% (0.05) was regarded as significant.

RESULTS

In present study, total of 150 patients included after obtaining the informed consent. The mean age of the patients was found to be 55.45yrs.

Table 1: Mean age of the participants included in the study

	N	Minimum	Maximum	Mean	SD
AGE	150	23.0	90.0	55.460	16.96

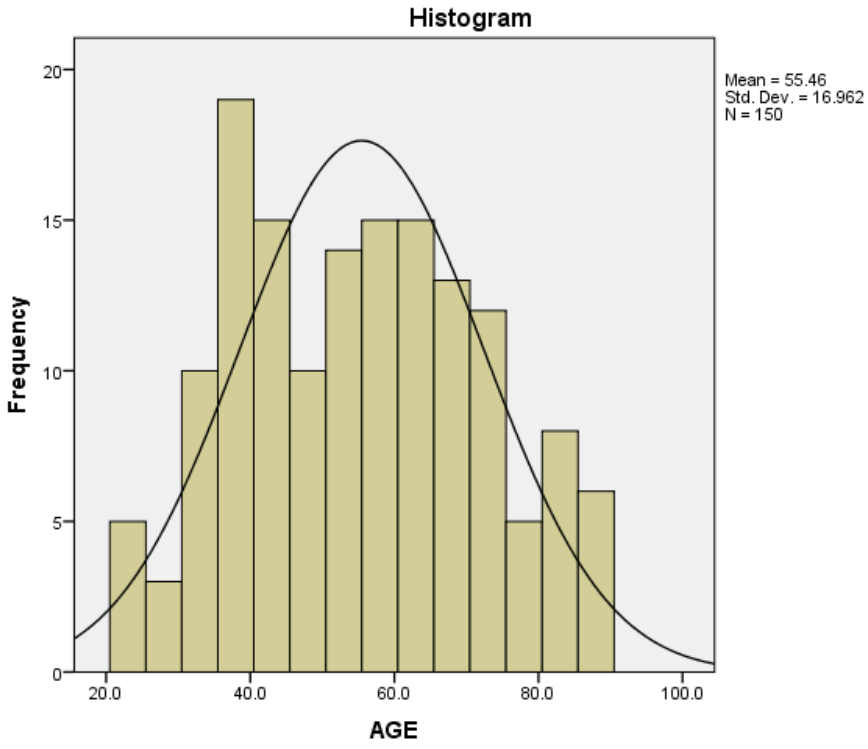


Figure 9: Mean age of the patients included in the study

Table 2: Distribution of age (years) of the participants included in the study

Age group					
	Age group	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	≤ 30	8	5.3	5.3	5.3
	31- 40	29	19.3	19.3	24.7
	41 - 50	25	16.7	16.7	41.3
	51 - 60	29	19.3	19.3	60.7
	> 60	59	39.3	39.3	100
	Total	150	100	100	

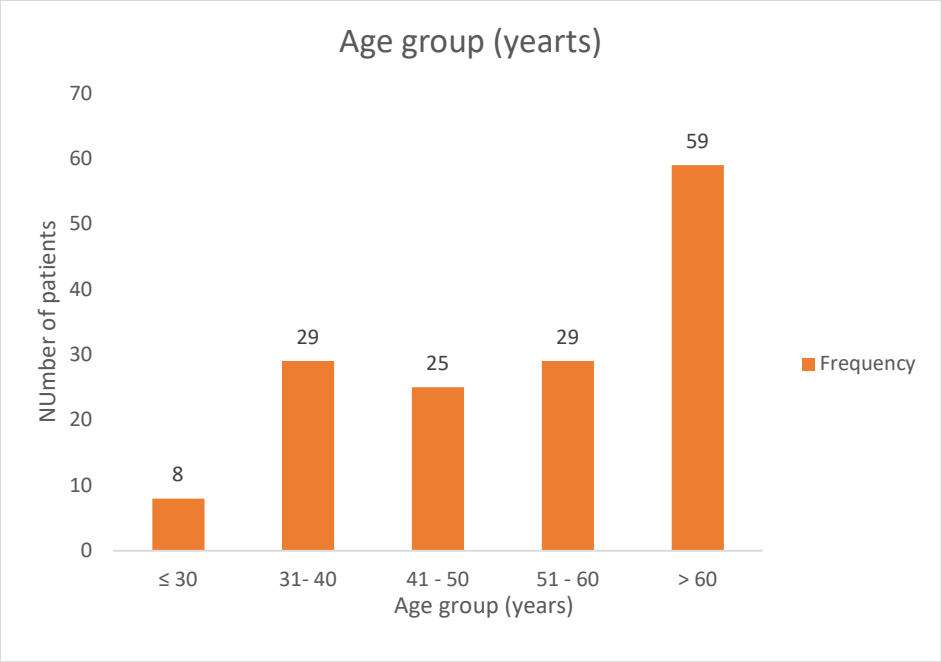


Table 3: Gender distribution of study participants

		Frequency	Percent
Gender	Female	29	19.3
	Male	121	80.7
	Total	150	100.0

Among them 80.7% were male patients and 19.3% were female with male preponderance in the study.

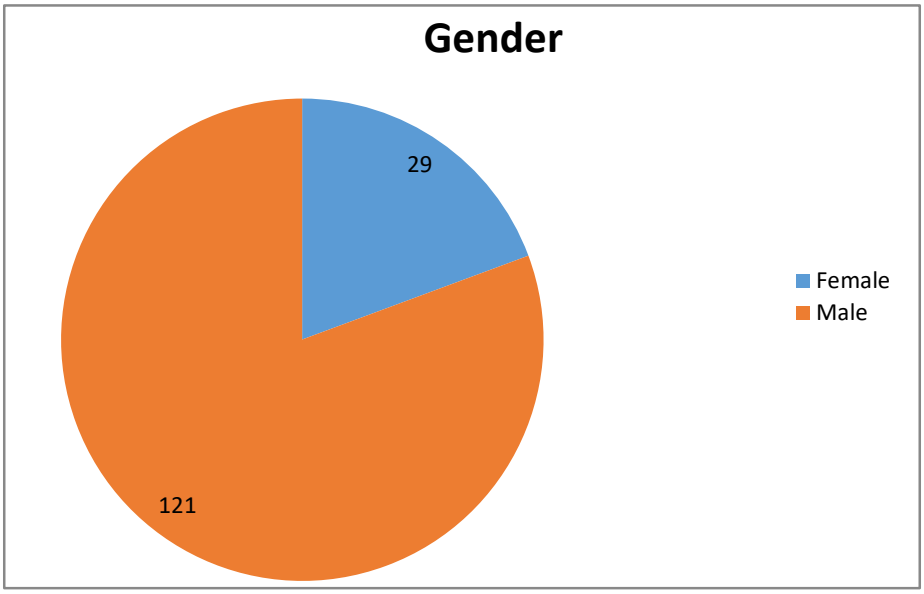


Figure 10: Gender distribution of study participants

Table 4: Vaccination status of the patients included in the study

		Frequency	Percent
Vaccination status	Not vaccinated (0)	57	38.0
	1.0	75	50.0
	2.0	18	12.0
	Total	150	100.0

Vaccination status was found to be 38% without vaccination, 50% with first dose and 12% with second dose.

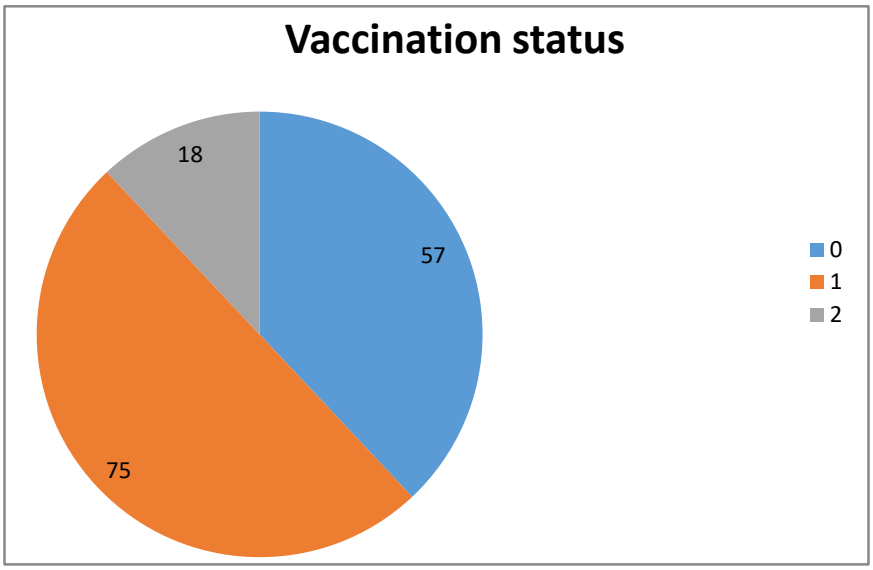


Figure 11: Vaccination status of the patients included in the study

Table 5: Outcome of the patients in the study

		Frequency	Percent
Outcome	Discharged	122	81.3
	Death	28	18.7
	Total	150	100.0

On assessment of outcome, 18.7% had the worst outcome as death, 81.3% were discharges. 14 patients discharged were worsened at the time of discharged and sent to higher centre.

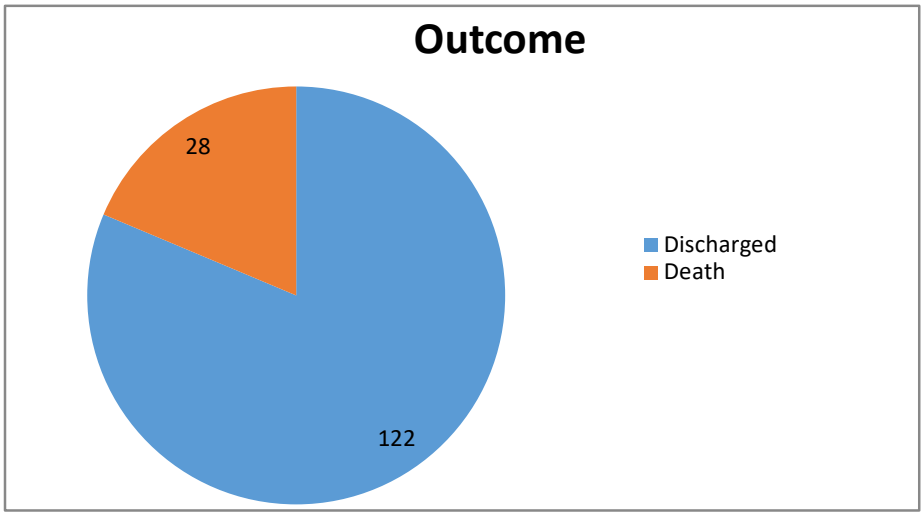


Figure 12: Outcome of the patients in the study

Table 6: Comparison of CT severity score with outcome among study participants

	Outcome				p-value
	Discharged		Death		
	Mean	SD	Mean	SD	
CT severity score	15.08	5.38	19.04	5.03	< 0.001*

*****Significant (p-value < 0.05) Unpaired t-test used

On assessment of the parameters between the outcome of patients, the CT severity score was significantly higher in patient with worst outcome as death compared to the patients discharged.

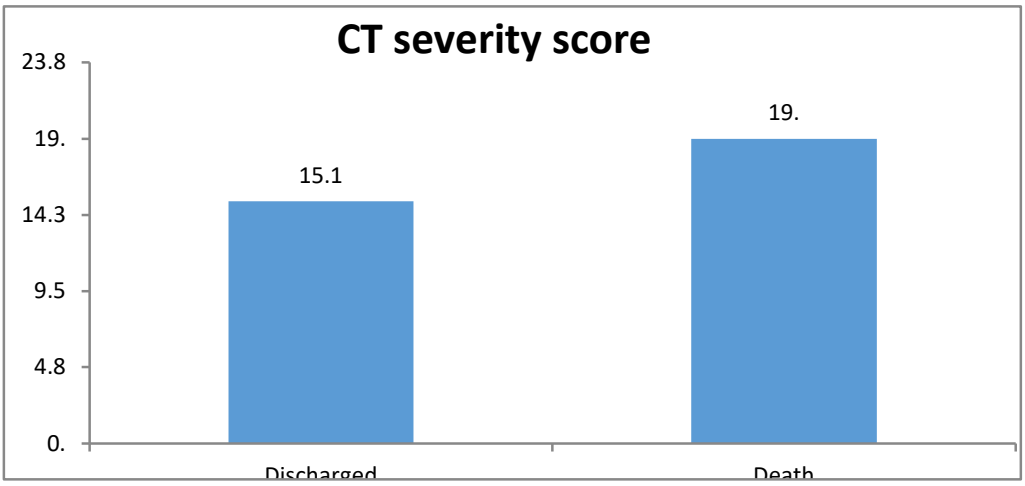


Figure 13: Comparison of CT severity score with outcome among study participants

Table 7: Comparison of the mean level of blood parameters with outcome of patients

Parameter	Discharge (n=122)		Death (n=28)		p-value
	Mean	SD	Mean	SD	
Hemoglobin	12.85	2.16	13.10	2.53	0.619
Total leucocyte count	10.87	5.95	11.04	8.16	0.920
Neutrophils	82.96	10.74	78.75	10.94	0.073
Lymphocyte	12.64	11.26	14.18	9.98	0.477
INR	1.24	0.26	1.22	0.21	0.627
APTT	1.02	0.28	1.05	0.27	0.599

p-value > 0.05 (Not Significant) Unpaired t-test used

Hemoglobin level, total leucocyte count, neutrophil percent, lymphocyte percent APTT, PT-INR level did not have any statistical significance with outcome of the patient.

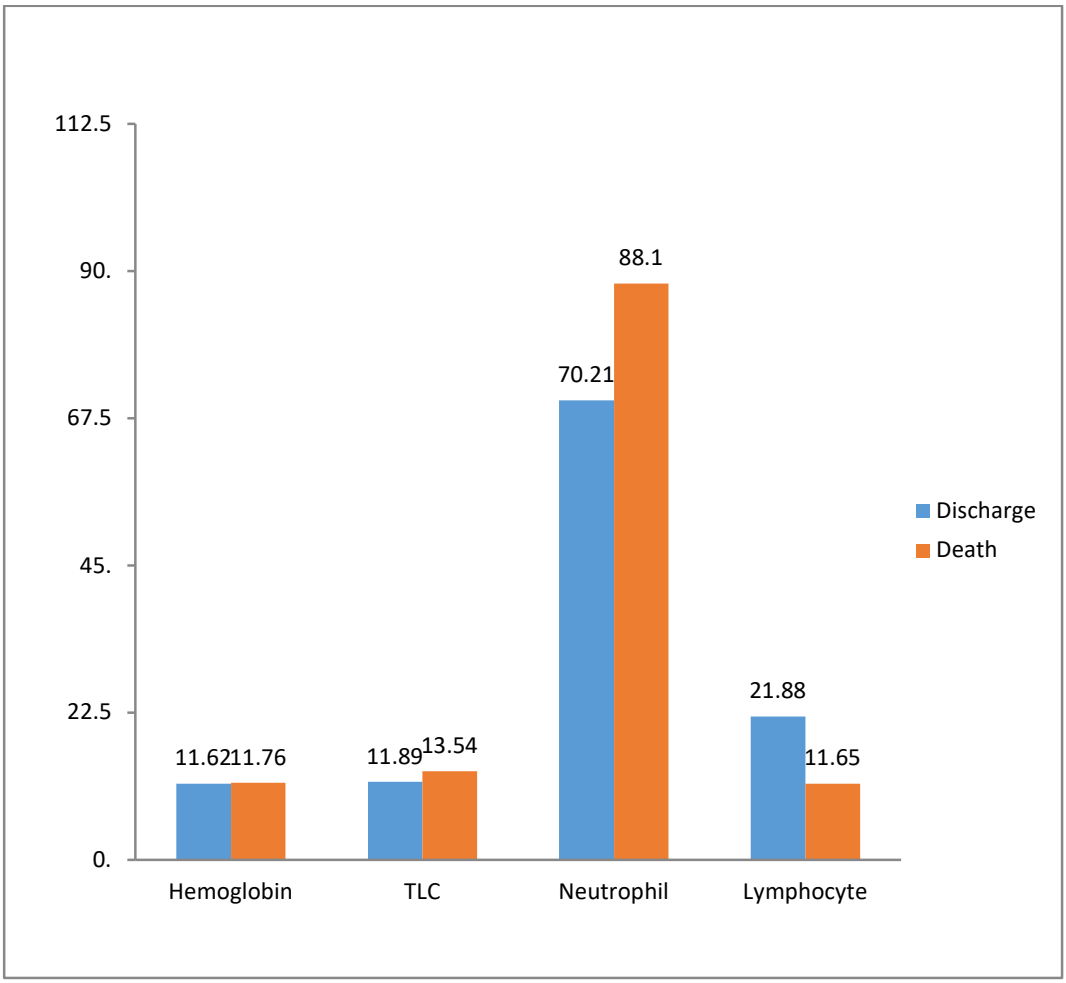


Figure 14: Comparison of the mean level of blood parameters with outcome of patients

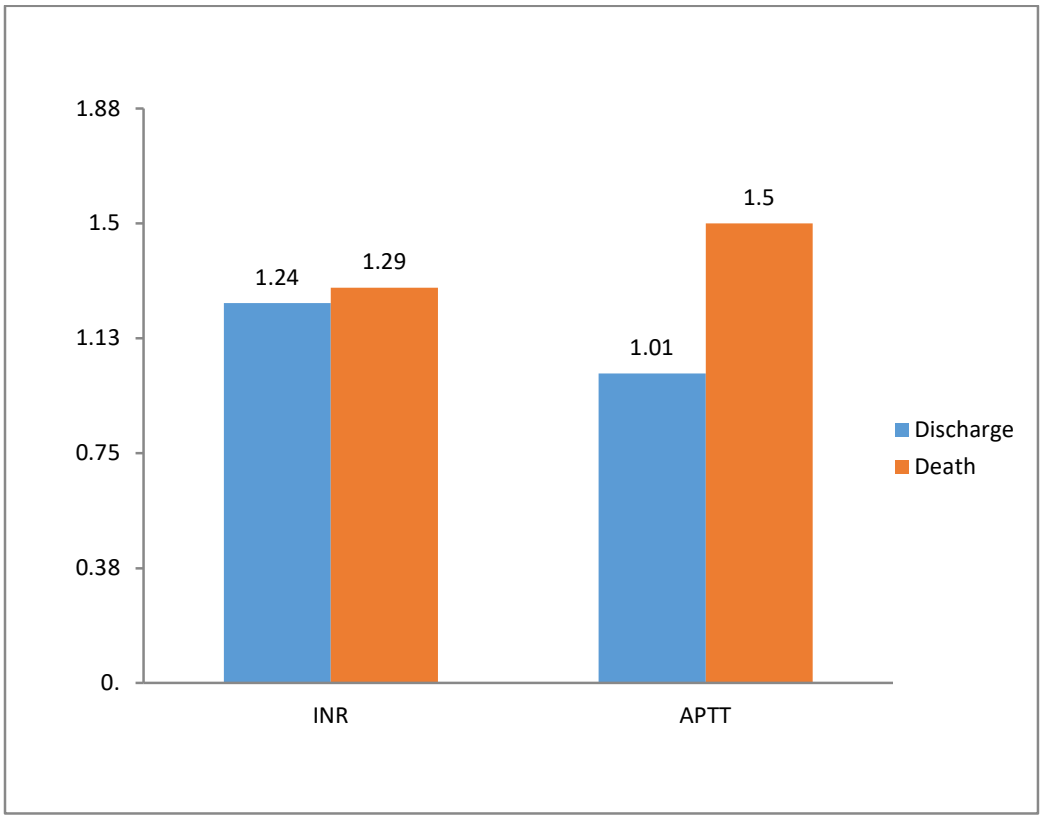


Figure 15: Comparison of the mean level of blood parameters with outcome of patients

Table 8: Comparison of the biomarkers with outcome of the study participants

Parameter	Discharge (n=122)		Death (n=28)		p-value
	Mean	SD	Mean	SD	
Ferritin	858.88	1418.53	933.07	915.50	0.439
Fibrinogen	426.93	245.13	391.46	198.58	0.652
LDH	537.48	370.67	648.32	251.12	0.007*
Homocysteine	26.45	59.26	46.15	144.17	0.723
HsCRP	98.52	115.12	146.60	93.65	0.002*
IL-6	84.11	147.68	71.70	116.84	0.791
D-Dimer	715.74	597.95	3180.12	2038.27	< 0.001*

*Significant (p-value < 0.05) Mann-Whitney U test used

There was significant higher mean level of the ferritin in patients with worst outcome as death. The mean level of LDH, Ferritin, Firbirnogen, Homocysteine, D-dimer and CRP, IL6 was significantly higher among the patients with worst outcome as death compared to patients discharged. LDH, HSCRP, and D-dimer levels were significantly higher and directly related to mortality in the given study.

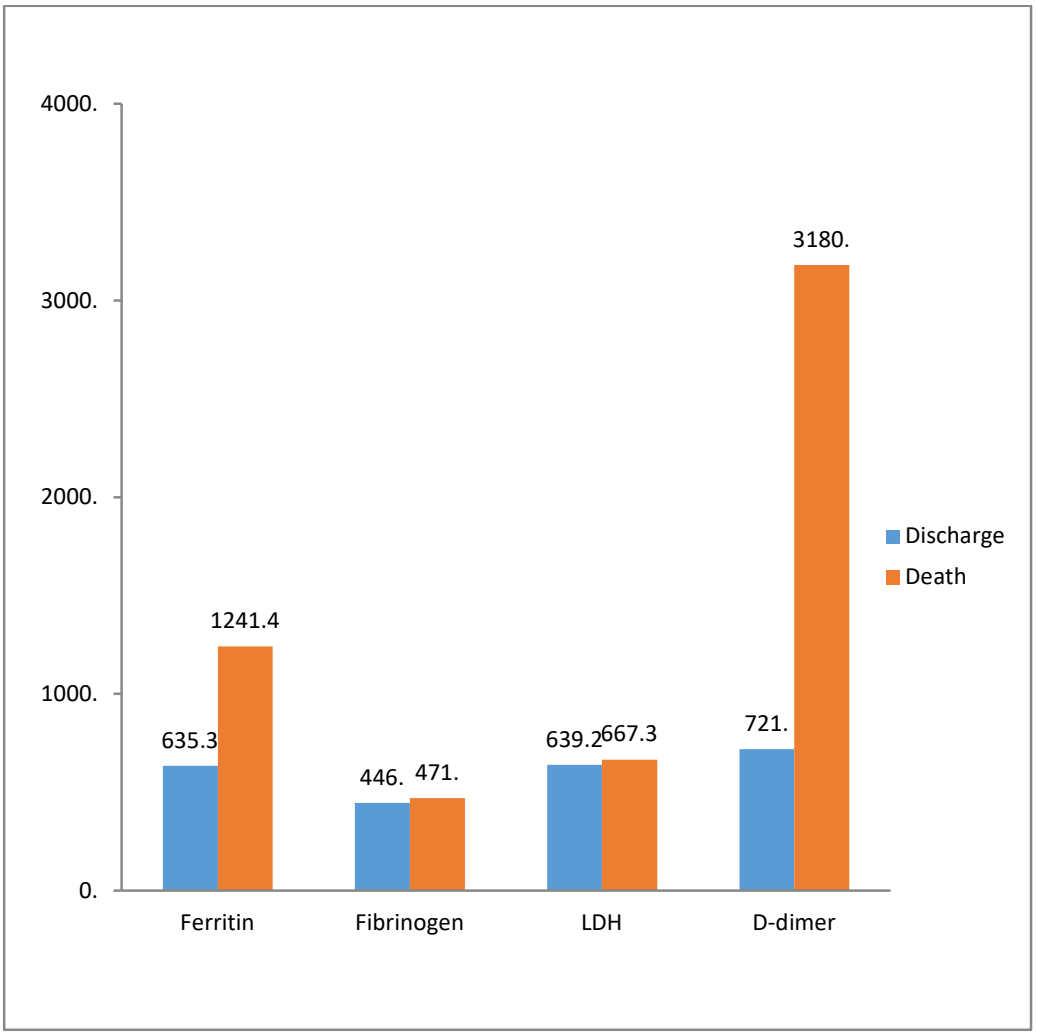


Figure 16: Comparison of the biomarkers with outcome of the study participants

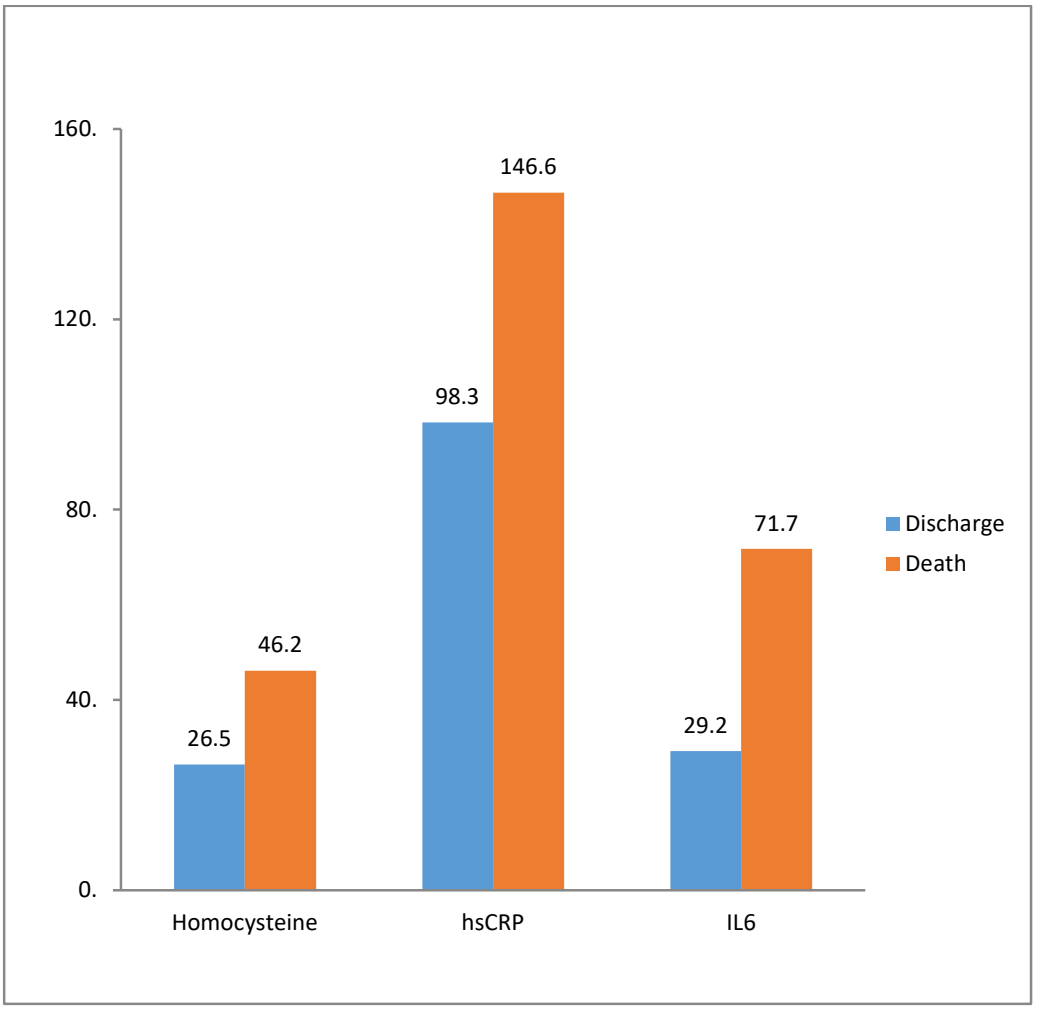


Figure 17: Comparison of the biomarkers with outcome of the study participants

Table 9: Comparison of the renal and liver function test parameters with outcome of the patients

Parameter	Discharge (n=122)		Death (n=28)		p-value
	Mean	SD	Mean	SD	
Urea	52.27	45.37	64.75	54.72	0.037*#
Creatinine	1.47	1.87	1.46	1.71	0.980 $
Bilirubin	0.68	0.97	0.69	0.53	0.892 $
SGOT	104.43	670.14	66.86	64.55	0.100 #
SGPT	40.23	44.77	68.86	92.65	0.325 #
RBS	181.86	101.79	166.86	71.55	0.794 #
HbA1c	2.16	3.67	2.09	5.40	0.962 $

*Significant (p-value < 0.05), # Mann-Whitney U test used,
$ Unpaired t-test used

In the study there is no significant difference in the mean level of the blood urea, creatinine and the liver profile.

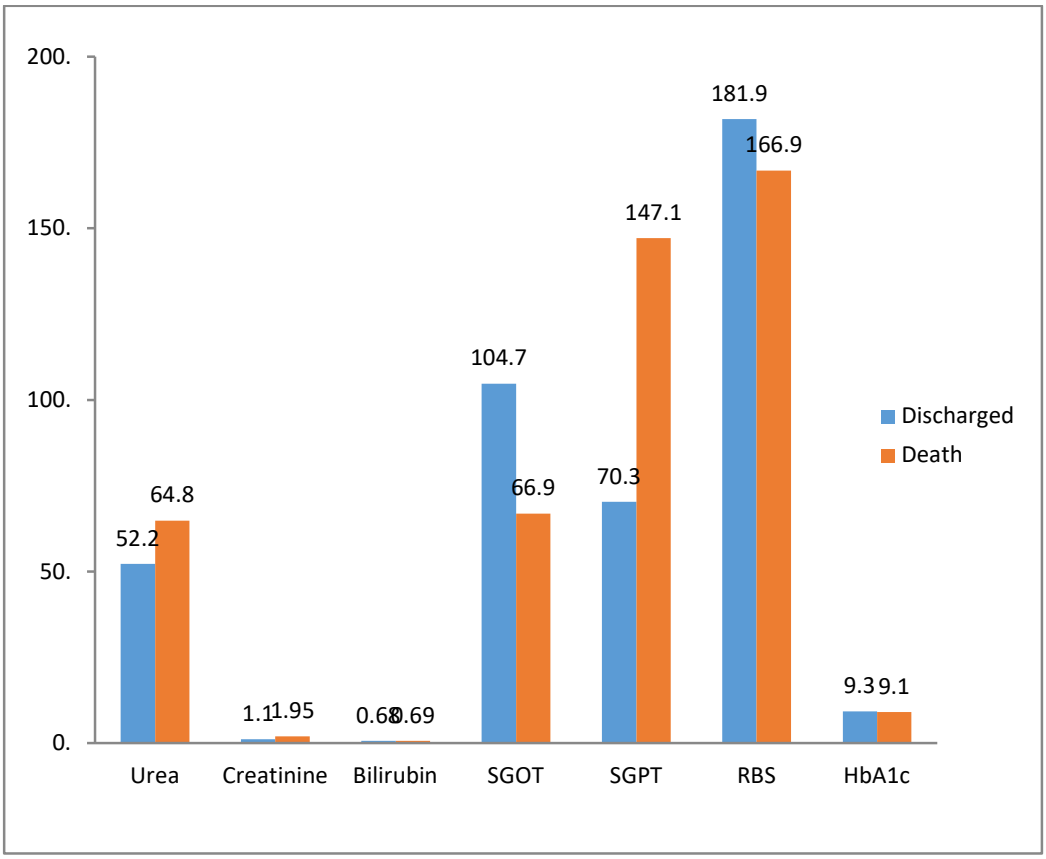


Figure 18: Comparison of the renal and liver function test parameters with outcome of the patients

Table 10: Comparison of the ISTH score with outcome of the patients

		Outcome				p-value
		Death		Discharged		
		Count	%	Count	%	
ISTH score	> 5	21	75.0%	40	32.8%	< 0.001*
	< 5	7	25.0%	82	67.2%	
Total		28	100.0%	122	100.0%	

*Significant (p-value < 0.05) Chi-square test used

There was significant higher incidence of death among the patients with ISTH score >50 (75%) compared to patients discharged.

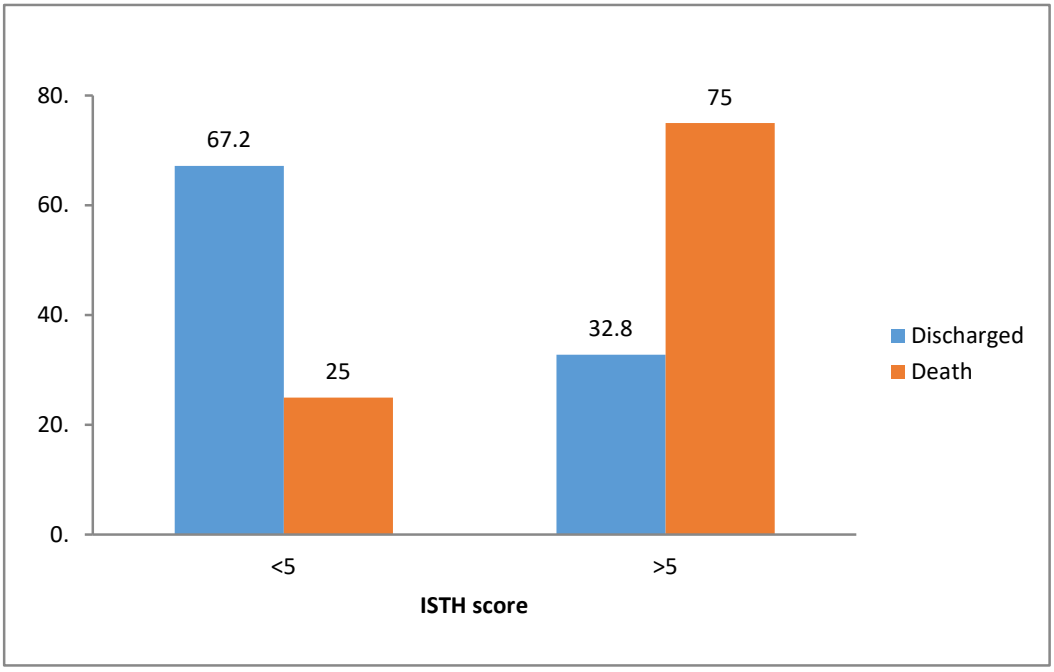


Figure 19: Comparison of the ISTH score with outcome of the patients

Table 11: Diagnostic characteristics of ISTH score to predict the outcome

Statistic	Value	95% CI
Sensitivity	75.0%	55.13% to 89.31%
Specificity	67.21%	58.13% to 75.44%
Positive Predictive Value	34.43%	27.36% to 42.26%
Negative Predictive Value	92.13%	85.90% to 95.75%
Accuracy	68.67%	60.59% to 75.98%

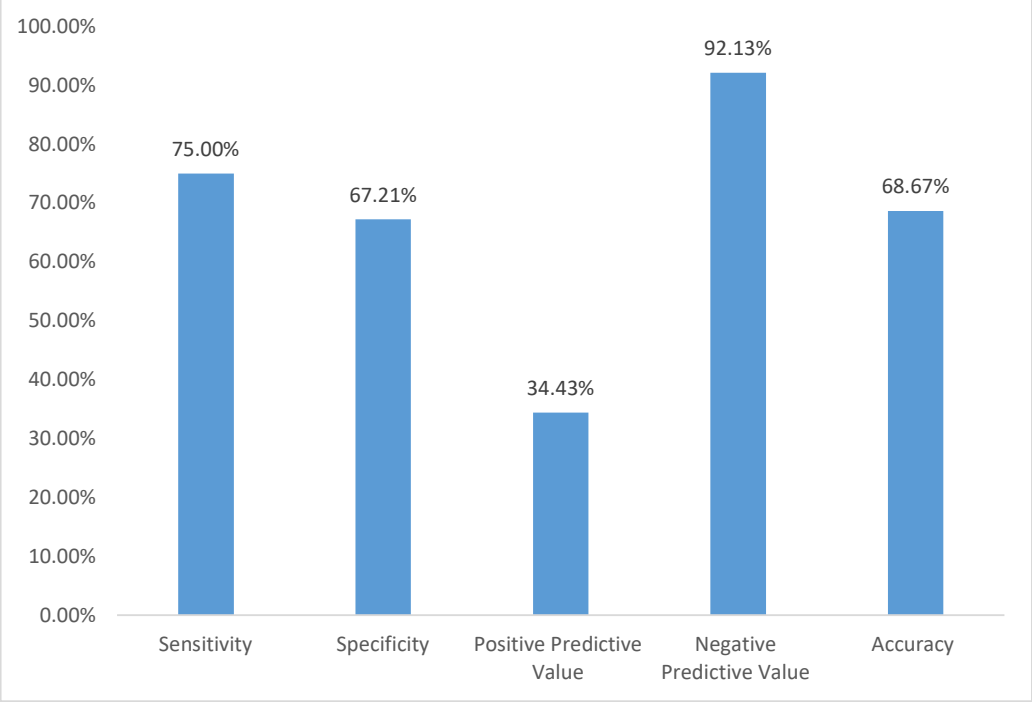


Figure 20: Diagnostic characteristics of ISTH score to predict the outcome

Table 12: Co-relation of CT SEVERITY SCORE WITH ISTH SCORE					
	ISTH SCORE DIC _Group	N	Mean	SD	p-value
CT severity score	< 5	89	15.3	5.382	0.172
	> 5	61	16.57	5.682	

There is no direct co relation with CT severity and ISTH SCORE with p value of 0.172

Table 13: Co-relation of DAY 3 PLATELET COUNT AND MORTALITY					
	Mortality	N	Mean	SD	p-value
Plateletsday 1	Yes	28	221.89	122.37	0.818
	No	122	227.64	97.67	
Platelet day 3	Yes	28	168.36	108.26	0.009
	No	122	229.44	92.62	

It was noted that the mean platelet count at 72 hrs was 168.36 with a drop of 53.5 from platelet count at admission and was statistically significant with mortality of patient.

Table 14: Co-relation of DAY 3 D-dimer level AND MORTALITY					
	Mortality	N	Mean	SD	p-value
d_Dimer_1	Yes	28	3180.12	2038.27	< 0.001
	No	120	715.74	597.95	
d_Dimer_3	Yes	28	3344.39	2083.14	< 0.001
	No	122	1256.32	1283.89	

It was noted that the mean platelet count at 72 hrs was 3344.39 with a was statistically significant with mortality of patient.

Table 15: Co-relation of vaccination status to ISTH SCORE					
Count					
		ISTH SCORE DIC _Group		Total	
		< 5	> 5		p-value
Vaccination status	0	27	30	57	0.057
	1	49	26	75	0.034
	2	13	5	18	0.027
Total		89	61	150	

Table 16: Co-relation of vaccination status to mortality					
Count					
		Mortality		Total	
		Yes	No		p-value
Vaccination status	0	13	44	57	0.495
	1	13	62	75	0.461
	2	2	16	18	0.472
Total		28	122	150	

It was noted that vaccination status of 1 and 2 had a significantly low ISTH score at admission.There was no significant relation of vaccination status and mortality.

Table 17: Co-relation of T2DM AND MORTALITY					
Count					
		Mortality		Total	
		Yes	No		p-value
DM	Present	18	61	79	0.172
	Absent	10	61	71	
Total		28	122	150	

Table 18: Co-Relation of T2DM with ISTH SCORE					
Count					
		ISTH SCORE DIC _Group		Total	
		< 5	> 5		p-value
DM	Present	47	32	79	0.966
	Absent	42	29	71	
Total		89	61	150	

There was no statistically significant co relation between Diabetic patients and mortality.

DISCUSSION

Thrombotic events such deep vein thrombosis, pulmonary embolism, myocardial infarction, and ischemic strokes have become more common in critically ill patients. Contrary to popular belief ,thromboembolic events have been clinically observed, the specific mechanism is unknown. The new SARS COV2 virus has a considerable influence on the human vasculature, manifesting as dynamic changes in the coagulation profile and perhaps suggesting the patient's prognosis.

COVID-19 thrombotic syndrome is an expanding spectrum that requires further research and analysis to accomplish optimal treatment goals, enhance prognosis, reduce post-infection consequences, and develop a robust prediction score system to anticipate this elusive and complicated coagulopathy. There is no question that DIC diagnosis and risk categorization are essential in the triage, prognosis, and treatment of COV-19 patients, particularly in cases of urgency, given the dismal prognosis of DIC. ISTH offers flexible, highly valid, laboratory-based scoring methods for identifying patients with overt DIC and septic persons who are prone to DIC regardless of clinical symptoms. 58

After receiving informed consent, a total of 150 patients were included in the study. The mean age of the patients was found to be 55.45yrs, among them 80.7% were male patients and 19.3% were female with male preponderance in the study. In the study 28.7% required oxygen mask and 28% were on room air. Vaccination status was found to be 38% without vaccination, 50% with first dose and 12% with second dose.

In study by Bauer W et al., documented the mean age of the patients as 70.0yrs with 48% were female.[59] In another study, the severe cases with mean age of 65yrs with male preponderance (61%). [60] Men and women's immune systems differ biologically, which may affect our capacity to fight viruses like SARS-2-CoV-2. Females are often more resistant to infections than men, which may be due to a combination of variables such as sex hormones and high expression of coronavirus receptors (ACE 2) in men, as well as lifestyle factors such as greater levels of smoking and drinking in men compared to women.

On assessment of outcome, 18.7% had the worst outcome as death, 81.3% were discharges. Fourteen patients discharged were worsened at the time of discharged and sent to higher centre. On assessment of the parameters between the outcome of patients, the CT severity score was significantly higher in patient with worst outcome as death compared to the patients discharged. Similarly, there was significant higher mean level of the ferritin in patients with worst outcome as death. The mean level of Firbirnogen, Homocysteine, D-dimer was significantly higher among the patients with worst outcome as death compared to patients discharged. There was significant higher incidence of death among the patients with ISTH score >5 (75%) compared to patients discharged. The mechanisms of fibrinolysis control appear to be skewed toward inhibiting fibrinolysis. This tendency improves in survivors while worsening in non-survivors.[55]

In addition to thrombosis and pulmonary embolism, D-dimer can indicate a significant viral infection. A viral infection can produce sepsis and coagulation disruption, which is common in the evolution of severe disease. In addition, a rise in D-dimer levels may be an indirect symptom of an inflammatory response, since

inflammatory cytokines may produce an imbalance of coagulation and fibrinolysis in the alveoli, stimulating the fibrinolysis system and so elevating D-dimer levels.[61,62]

In a study by Luo HC et al., the PT-act, D-dimer, and FDP may be used to predict death in a manner similar to the current study. There was no statistically significant difference between the AUCs for PT-act and those for D-dimer and FDP. After two weeks of medication, the coagulation parameters of the patients who survived improved. Uneven coagulation is usually linked to COV-19. In COV-19 patients, PT-act levels upon admission, D-dimer levels, and FDP values can all predict death. <75% of PT-acts are connected to death on their own. 57

Yu HH et al., documented that Patients with severe COVID-19 had higher D-dimer levels than those with non-severe illness, and D-dimer levels more than 0.5 g/ml are related with severe infection in COVID-19 patients.[63]

In study by Garcia-Olive et al., documented Patients with greater D-dimer values and those requiring intubation were more likely to develop PE. Three, six, nine, and twelve days after D-dimer levels were measured, with ORs of 1.7, 2.0, 2.4, and 2.4, respectively, higher D-dimer levels were linked to a higher risk of PE. Last but not least, individuals with COVID-19 infection who need OTI and have higher D-dimer levels are more likely to experience PE. 54 The levels of D-dimer and fibrin degradation product (FDP), as well as the prothrombin time and activated partial thromboplastin time, were significantly higher in non-survivors at the time of admission (P.05); 71.4% of non-survivors and 0.6% of survivors met the criteria for disseminated intravascular coagulation. The current investigation found that NCP deaths frequently have aberrant coagulation values, particularly noticeably high D-dimer and FDP. 53

As demonstrated by Liao D et al., rapid blood tests can assist doctors in determining the severity and prognosis of COV-19 patients. These tests include platelet count, prothrombin time, D-dimer, and neutrophil to lymphocyte ratio. Early evaluation and management of patients with severe illness can be done using the sepsis-induced coagulopathy scoring system. 52 In another study, NLR and D-dimer levels were higher on days 1, 4, and 14 in the severe group compared to the mild/moderate group ($P<0.01$), and D-dimer levels were higher on days 1, 7, and 14 ($P<0.05$). Hyperfibrinogenemia, lymphopenia, D-dimer elevation, and leukopenia were the most prevalent COV-19 aberrant haematological indices upon arrival, and their prevalence varied considerably across the mild/moderate and severe COV-19 groups. Additionally, the dynamic variation of NLR and D-dimer levels can differentiate between patients with severe and mild COVID-19. 51

According to Samkari HA et al., DIC, clinically significant thrombocytopenia, and low fibrinogen levels are unusual and are connected with signs of extreme bleeding. Given the reported bleeding rates, randomised studies are necessary to establish whether enhanced anticoagulant prophylaxis may help COVID-19 patients.[56]

Higher ISTH and SIC scores are linked to increased sickness severity and death, according to research by Hosseini S. et al., which is similar to the current study. Additionally, more nonsurvivors and patients with severe illnesses met the ISTH and SIC DIC classifications. Given the high prevalence of coagulopathy associated with COVID-19 infection, it is essential to continuously monitor important indicators, such as the ISTH and SIC scoring systems, in order to identify DIC in suspect people as soon as possible. 58

Zhang Y et al. found that thrombotic events and persistent hypercoagulability were frequent in the critically ill COVID-19 patients. The presence of

antiphospholipid antibodies, high factor VIII levels, and natural anticoagulant activity could all contribute to the coagulopathy etiology in COVID-19 patients. Additionally, standard coagulation tests revealed elevated D-Dimer (100%), an extended prothrombin time (73.7%), and hyperfibrinogenemia (73.7%). Protein C, protein S, and antithrombin all had median activities of natural anticoagulants that were below the normal range. 50

Another study by Liu Y et al. found that the PT, DD, and FDP values were positively associated to the traditional APACHE II, SOFA, and qSOFA scores, but adversely related to the ATIII ($p<0.001$). High levels of PT, FDP, and DD were linked to in-hospital mortality ($p<0.001$). Finally, blood coagulation issue was prevalent in COVID-19 ICU patients and was linked to a variety of inflammatory variables. Abnormalities in blood coagulation parameters may be a risk factor for COVID-19 ICU patients.[64]

Thrombocytopenia was connected to coagulation function, DIC rate, and survival in a research by Bao C et al. Six of the seven fatal patients experienced thrombocytopenia while in the hospital, and their platelet count fell until they died. Within one week of being hospitalised, six recovered patients developed thrombocytopenia. Higher platelet levels were followed by positive SARS-CoV-2 IgM/IgG and negative coronavirus nucleic acid tests in 8 recovered individuals. A low platelet count is associated with poor coagulation function, an increased risk of DIC, severe disease presentation, and mortality in COVID-19 patients.[65]

The present study documented the significant changes in coagulation profile in patients with COVID-19 infection.

CONCLUSION

The present study documented the significant changes in the coagulation profile among the patients with worst outcome as death of the patients.

D-dimer level at admission and at 72 hours was significantly higher in patients with the worst outcome.

There is a higher incidence of the inflammatory markers and deranged coagulation profile among critical patients as compared to the patients discharged from hospital.

Vaccinated patients had a lower ISTH score at admission as compared to non-vaccinated patients.

The ISTH score was found to have sensitivity and specificity to detect the worst outcome among the patients. This knowledge is helpful to assess and prevent the further complications among the patients.

SUMMARY

The patients who were admitted to the hospital with COVID-19 infection were the subjects of the current cross-sectional study. All patients fulfilling the inclusion criteria will be enrolled in the study then subjected to a questionnaire and thorough clinical examination. Outcome of the patient were assessed in terms of duration of stay in hospital, oxygen requirement, and condition of the patient at the time of discharge and mortality. The coagulation profile included the platelet count, INR, aPTT, serum D-dimer, firbrinogen, other inflammatory markers like LDH, hs-CRP, Ferritin and IL-6. The data were analysed and tabulated with the SPSS 21v, with $p<0.05$ was considered statistically significant.

- After receiving informed consent, a total of 150 patients were included in the study.
- The mean age of the patients was found to be 55.45yrs.
- Among them 80.7% were male patients and 19.3% were female with male preponderance in the study.
- In the study 28.7% required oxygen mask and 28% were on room air.
- Vaccination status was found to be 38% without vaccination, 50% with first dose and 12% with second dose.
- On assessment of outcome, 18.7% had the worst outcome as death, 81.3% were discharges.
- 14 patients discharged were worsened at the time of discharged and sent to higher centre.
- On assessment of the parameters between the outcome of patients, the CT severity score was significantly higher in patient with worst outcome as death compared to the patients discharged.

- Similarly, there was significant higher mean level of the D-DIMER in patients with worst outcome as death.
- The mean level of Firbirnogen, Homocysteine, D-dimer was significantly higher among the patients with worst outcome as death compared to patients discharged.
- LDH, Ferritin and D-DIMER Levels at admission were significantly higher at admission in patients with the worst outcome.
- Platelet level at 72 hrs were significantly lower (Mean:168.36) in patients with the worst outcome compared to those discharged.
- D-dimer level at admission and at 72 hrs was significantly higher (Mean:3344.39) in patients with the worst outcome.
- Vaccination status of 1 or 2 doses had a significantly lower ISTH score at admission. However there was no statistical significance of vaccination status with outcome of the patients.
- Patients with diabetes mellitus did not show any statistical significant relation with ISTH score or mortality in this study.

When compared to patients who had been discharged, patients with an ISTH score of >5 had a significantly greater likelihood of death (75%).

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ANNEXURES - I- INFORMED CONSENT

Dear Mr./Mrs./Dr. _____, you are kindly requested to enroll yourself in a research study titled: A STUDY OF COAGULATION PROFILE DYNAMICS IN PATIENTS INFECTED WITH COVID-19 ADMITTED TO KLES PRABHAKAR KORE HOSPITAL AND MEDICAL RESEARCH CENTRE. -A CROSS SECTIONAL STUDY DONE IN KLE'S DR.PRABHAKAR KORE HOSPITAL AND MEDICAL RESEARCH CENTRE, BELAGAVI being conducted by

REG NO: BG0120021 a post graduate student in M.D. General Medicine and the study will be carried out under the direct supervision and guidance of

Dr._____

Professor, Department of General Medicine,

Registrar KAHER

Jawaharlal Nehru Medical College, Belagavi.

You have been requested to participate in this as you fit into the laid out criteria for a study 'subject'/ participant.

Your participation in study is voluntary. During the study you will be asked some questions and you are supposed to answer to the best of your knowledge. Your decision whether or not to participate in the study will not affect your treatment in any form. If you decide to participate you are free to withdraw at any time.

TITLE OF THE STUDY:

A STUDY OF COAGULATION PROFILE DYNAMICS IN PATIENTS INFECTED WITH COVID-19 ADMITTED TO KLES PRABHAKAR KORE HOSPITAL AND MEDICAL RESEARCH CENTRE.

A CROSS SECTIONAL STUDY DONE IN KLE'S DR.PRABHAKAR KORE HOSPITAL AND MEDICAL RESEARCH CENTRE, BELAGAVI

PURPOSE OF THE STUDY: To Study the dynamic changes in the coagulation profile and co relate it to the outcome of patients affected by COVID 19.

PROCEDURES INVOLVED: If you agree to enroll yourself in my study, you will be interviewed regarding your present, past and family history then you will be clinically examined in detail and investigated accordingly.

Then you will be subjected to a few blood investigations done routinely namely complete blood count, random blood glucose, blood urea, Sr.electrolyte, liver function test, urine routine and microscopy And coagulation profile which includes D-dimer, Serum Fibrinogen, PT INR,APTT along with other inflammatory markers like LDH,Sr.ferritin,IL-6,hs-CRP.

RISKS AND BENEFITS: There are no potential risks involved in this study.

BENEFITS OF TAKING PART IN THIS RESEARCH: By taking part in this study, the coagulation profile and prognosis of every patient will be studied and the therapeutic management will hence be refined which will benefit the forthcoming patients infected with covid-19.

VOLUNTARY PARTICIPATION / WITHDRAWAL FROM THE STUDY: Taking part in the study is voluntary. You may choose not to enroll yourself in this study and may choose to leave the study anytime in between.

ALTERNATIVES: Your decision regarding participation in study will not change present or future health care services offered to you at KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belgaum. You would simply be excluded from the study if you wish to, and all your details shall be kept confidential and you will get the routine line of management.

PRIVACY AND CONFIDENTIALITY: All data collected or disclosed by you during the course of participation of study, will be kept fully confidential. If however during the course it becomes necessary for the progress of the course to disclose the identity, it would be done so only after your informed & written consent. The only people to know that you are a research subject are members of the research team. No information about you will be disclosed to other without your written permission except:

In emergency to protect your rights AND welfare.

If required by law.

AUTHORIZATION TO PUBLISH RESULT: The results of the study may be used to publish an article. When the results of research published or discussed, in a conference, no information will be displayed that would disclose your identity. Any information obtained in connection with this study and that can be identified with you will remain confidential.

FINANCIAL INCENTIVES FOR PARTICIPATION: No additional costs shall be incurred upon you for the purpose of this study. It is purely being done with the idea of research and all the cost of study will be borne by the investigator.

COMPENSATION: In the event that you become injured as a result of taking part in this study, treatment will be offered to you at KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belgaum, or you will be given information about where to receive medical care. However, no reimbursement, compensation or free medical care will be given.

QUESTIONS/CONTACT DETAILS: You shall be free to contact the below mentioned name & addresses anytime during the study period for any clarification or help as you may desire for.

PRINCIPAL INVESTIGATOR:

REG NO: BG0120021

MD (Post Graduate Student), Department of General Medicine, Jawaharlal Nehru Medical College, Nehru Nagar, Belagavi 590010.

GUIDE:

Dr._____

Department of General Medicine,

Jawaharlal Nehru Medical College

Nehru Nagar, Belagavi 590010.

Dr. Roopa M Bellad, M.D. D.C.H(PROFESSOR OF PAEDIATRICS Chairman, J.N.M.C Ethical Committee for Human Research,9448113403

CONSENT FORM

I voluntarily agree to take part in this study by signing below. I may withdraw at any time. I am not giving up any of my legal rights by signing this form. My signature below indicates that I have read this consent form, or it has been read to me, this consent form and have had all the questions answered.

Signature / Left Thumb print of the Participant or legally authorized representative

Participant's name :……...

Signature / Left thumb impression: ……...

of the participant

Name of the legally authorized :……...

representative / guardian

Signature / Left thumb impression :……...

Witness' name :……...

Signature / Left thumb impression :……...

Investigator's name and signature :……...

Date:

Place:

ANNEXURES – II - PROFORMA

IP No :

Date of Admission :

Age :

Sex :

Clinical Parameters At Admission

Symptoms:

Tick the applicable Box					
Cough		Fever		Other Symptoms	
Myalgia		Breathlessness			
Time to hospital from symptom onset (Days)					

Oxygenation Parameters at admission	
Admission Respiratory rate (RR/min)	
Admission SPO2(%)	
Admission O2 modality (RBM,HFO,NIV, Ventilator)	
Admission O2 rate (in Litres per minute)	
Admission O2 FiO2 (%)	
Admission PO2 (Look at admission ABG)	

Co-morbidities

DM		HTN		IHD		CKD		CLD		CVA		Malignancy	
Others													

Lab Parameters At Admission

Hb		TLC		Lymphocyte%		Platelets	
Ferritin		LDH		hsCRP		PTINR	
d-Dimer		CRP		S Fibrinogen		Urea	
Creatinine		Bilirubin		SGOT		SGPT	
RBS		HbA1c				APTT	

CT Severity score (Out of 25)	

Maximum OXYGENATION Support required during entire stay	
Mode of O2 (RBM,HFO,NIV, Ventilator)	
FiO2%	
SpO2 %	
PO2% (Look at ABG)	

Worst Lab Parameters during entire hospital stay	
Lowest Absolute Lymphocyte count	
Maximum TLC	
Maximum IL-6	
Maximum D-dimer APTT PT INR S.Fibrinogen	
Maximum Creatinine	
Maximum SGOT	
Maximum SGOT	

TREATMENT

Remdesivir (No. of Doses)	
Tocilizumab (No. of Doses)	
LMWH (Max Dose)	
Un-fractioned Heparin (Max Dose)	
Type of Steroid used (methyle pred or dexa)	
Max dose of steroid per day used	
Thymosin 1 Alpha (No of doses)	
Convalescent Plasma (Cycles)	
PO2/FiO2 at the time of convalescent plasma	
Mode of O2 at the time of plasma therapy	

Cytosob (Cycles)	
Plasma Exchange (Cycles)	
Alteplase (Dose)	
Alteplase (tPA)(Number of times Given)	
Pre tPA PO2/FiO2	
Post tPA pO2/FiO2	
Pre tPA Fibrinogen	
Post tPA Fibrinogen	
Pre tPA d-Dimer	
Post tPA D-dimer	

OUTCOME

Outcome	Tick	Date
Improved and discharged		
Died		
Worsened and went AMA		
Improved and went AMA		

0					CLINICAL PARAMETERS AT Admission														INFAMMATORY PARAMETERS AT Admission											Other Labs at Admission			
Sl. No.	IP No	Date of Admission	AGE	Sex	Symptoms (C=cough; F=Fever; B=breathlessness; M=Myalgia, Loss of smell=LS; Loss of taste=LT)	Any other symptoms V:Vomiting, LO=loose stools, W:weakness, AP: Abd pain, AD: Abd distn, J: Jaudince:Hematuria, LAPP: Decreased Appetite, SoT: Sore throat, CP: Chest pain, AltSen: Altered sensorium, Ed:Edema, LoOP: Low urine, LWK: limb weakness, Hemoptysis	Time to hospital from symptom onset (Days)	Admission Respiratory rate (RR/min)	Admission SPO2	Admission O2 modalityn (RBM,HFO, NIV, Ventilator)	Admission O2 rate (Lt/min)	Admission FiO2	qSOFA	Co-morbidites	Vaccination status	CT severity score(~/25)	Hb 1	TLC1	NEUTROPHIL %1	Lymhocyte % 1	Platelets	Ferritin	FIBRINOGEN	LDH	HOMOCYSTEINE	hsCRP	IL-6	d-Dimer	d-Dimer	INR	APTT	ISTH SCORE	Urea	Creatinine	Bilirubin	SGOT
1	1032968	29.12.20	57	M	FB		7	28	96	RBM	10L/MIN	NA	1	DM	0	12	10.6	11	92	5	199	151	351	452	33	50	50	237		1.66	1.08	<50	24	0.9	0.7	30
2	1029460	28.11.20	59	M	FBC		6	26	98	RBM	8L/MIN	NA	1	HTN,IHD	0	16	11.8	10	78	14	262	119	392	232	19.5	53.7	17.06	1008	1624	1.28	0.9	<50	17	0.83	0.39	49
3	1029718	1.12.2020	25	M	CB		3	22	97	RBM	5L/MIN	NA	2	HTN	0	22	10.5	12	85	12	57	193	640	439	20.5	63	49	1381	514	2.42	0.81	<50	87	1.03	0.5	62
4	1049200	15.4.2021	40	M	CFM		4	24	94	O2 MASK	2L/MIN	NA	3	HTN,CKD	0	18	17.9	11.2	84	13	248	408.3	104	854	11.51	142	600	323	1352	1.22	0.97	>50	25	1.02	1.13	23
5	1050175	.21.4.21	23	M	CFMB		10	34	95	HFO	40L/MIN	NA	3	DM	0	24	15.6	5.2	46	44	208	143.6	237	223	12	4.2	13.6	166		1.1	1	<50	15	0.85	0.27	26
6	1049472	16.4.2021	51	M	B		3	28	94	O2 MASK	5L/MIN	NA	3	DM,HTN	0	22	13.6	14	82	10	561	235.9	436	634	7	89	13	5000	317	1.1	1	>50	44	0.61	0.32	18
7	1050328	23.4.21	46	M	FMB		7	28	94	RBM	8L/MIN	NA	3	DM, HTN	2	18	13.8	3	83	15	112	2086	108	255	25	57.9	17	474		1.7	1.2	<50	29	1.01	0.79	80
8	1050175	21.4.21	23	M	FB		3	26	92	RBM	15L/MIN	NA	2	DM	2	8	15.6	5.2	46	44	209	143	237	223	12.4	4.2	13.6	166		1.2	1.1	>50	15	0.85	0.27	26
9	1049472	16.4.21	51	M	M		3	24	90	O2 MASK	5L/MIN	NA	2	DM,CKD	2	19	13.6	5.2	46	44	208	143.6	237	223	12.43	4.2	13.69	166	202	1	1.08	<50	44	0.61	0.32	18
10	1051902	30.5.21	88	M	CB		5	28	88	RBM	10L/MIN	NA	2	IHD	2	24	9.5	6.5	86	13	152	8957	454	468	18	36	16	990		1.2	1.1	>50	41	1.32	0.39	103
11	1051907	10-5-21	65	F	CFB		3	28	90	O2 MASK	5L/MIN	NA	2	DM	2	22	9.2	10.3	92	6	283	325	778	545	16.7	307	9	872		1.18	0.93	<50	62	1.62	0.43	23
12	1051952	10.5.21	36	M	CFM		5	29	93	RBM	10L/MIN	NA	2	HTN/DM	1	25	11.5	14	88	6	287	1402	493	622	13	76	84	633	1	1	0.9	<50	42	0.94	2.2	33
13	1051195	1.5.21	42	M	BF		2	42	37	NIV		100	1	DM, HTN	1	24	13.7	5	75	18	159	748	399	352	14.6	195	64	160		1.12	1.06	<50	38	1.3	0.5	28
14	1051698	7.5.21	60	M	CB		3	26	80	NIV		100	1	HTN/OBESITY	1	22	15.6	8.7	87	12	90	2000	1103	416	13	156	48	758		1.27	0.89	<50	54	1.01	0.5	70
15	1051068	10.5.21	45	M	FB	V, LO	3	45	35	NIV		100	1	DM,HTN,CKD	1	25	13.3	5.1	83	12	150	3235	460	481	5.9	66	63	876		1.05	0.86	<50	31	0.6	0.2	58
16	1051728	10.5.21	40	M	CMB		2	26	92	O2 MASK	6L/MIN		1	NONE	1	15	13.7	14	87	7	170	605	283	961	8.6	5.6	21	1437	1541	1.16	0.6	<50	91	0.73	0.8	37
17	1051693	10.5.21	45	F	CF		5	28	100	NIV		100	3	DM,HTN,IHD	1	18	12.6	15.4	71	14	183	263	268	667	16.7	79	21	4682		1.16	0.6	>50	41	0.76	0.2	41
18	1051196	7.5.21	87	M	B	CP	4	22	96	O2 MASK	5L/MIN	NA	1	HTN,IHD	1	20	13.3	11.7	93	2	224	475	1149	296	19	759	654	690		1.3	1.5	>50	74	1.17	0.5	107
19	1051064	4.5.21	87	M	CFB		2	20	88	RBM	4L/MIN	NA	1	DM,HTN	1	22	13.6	5.5	82	13	147	569	1149	339	139	6	650	690		1.2	1	>50	46	1.45	0.57	26
20	1051262	10.5.21	60	M	FB	V	4	22	100	NIV		100	1	IHD	1	22	15.6	9.1	75	16	260	794	552	552	12.5	13.3	1.08	555		1.08	0.85	<50	20	0.6	0.42	20
21	1051304	10.5.21	62	M	CBM		3	30	88	RBM	15L/MIN	NA	1	HTN	0	18	15	6	84	10	160	1285	708	521	8.4	130	40	1057		1.28	0.9	>50	63	0.7	0.8	77
22	1051738	7.5.21	73	M	CFB		3	26	87	RBM	15L/MIN	NA	2	DM,HTN	0	24	11.3	6.3	74	21	164	191	191	323	11	117	7	891		1.19	0.7	<50	66	0.9	0.4	14
23	1051798	10.5.21	33	F	FB		7	22	94	RBM	15L/MIN	NA	3	DM,HTN	0	20	11.8	10	83	12	445	131	328	426	14.2	7	5.79	396		0.9	0.7	<50	35	1.25	0.5	15
24	1051477	4.5.21	75	M	CFB		4	36	82	RBM	10L/MIN	NA	3	ASTHMA	0	23	12.2	3.8	87	6	113	809	467	876	8.9	135	32	1352		0.9	0.7	<50	108	1.68	0.6	36
25	1051255	2.5.21	35	F	CB		4	34	70	NIV		100	3		0	6	8.7	21.6	93	5	143	93	470	1184	6.2	135	86.3	1232		1.7	0.05	>50	64	0.8	0.49	32
26	1051522	5.5.21	33	M	CFB		3	28	64	NIV		100	3	DM, HTN	0	24	14	13.1	67	9	160	749	934	555	7.4	274	45	1440	686	1.16	0.93	>50	45	1.71	0.62	41
27	1051068	10.5.21	45	M	CB		3	22	93	O2 MASK	15L/MIN	NA	1	DM	0	22	13.3	5.1	83	12	150	156	960	678	5.9	54	39	836		1.05	0.8	>50	26	0.48	1.06	70
28	1051728	7.5.21	40	M	CBF		4	24	93	RBM	8L/MIN	NA	1	DM,AKI	0	13	13.4	14	87	7	170	605	283	961	12	5.6	21	1437		1.16	0.66	>50	37	0.37	0.8	27
29	1054327	3.6.21	41	F	CFMB	,LoOP, Hematu	2	18	95	NIV		100	2	DM	0	18	12.5	10.3	89	9	459000	626	333	773	13	431	254	1482		1.1	1.3	<50	18	1.1	0.3	42
30	1054254	3.6.21	88	M	CFB		3	28	87	RBM	15L/MIN	70	1	DM	1	22	14.8	12.5	95	3	150	1988	389	638	10	164.8	235	511		1.29	1.28	>50	86	1,64	0.33	68
31	1020598	3.6.21	49	M	FM		8	30	86	RBM	10L/MIN	NA	1	DM	1	16	14.1	4.7	81	16	147000	1349	433	826	5	96	35	937	7748	1.1	1.09	>50	34	1.01	0.5	55
32	1022740	3.6.21	74	M	B		1	32	70	NIV		70	3	DM,HTN	1	20	12.8	16.7	97	2	232000	499	345	3650	67	54	120	>5000		1.2	1.08	>50>	139	3.52	1.2	7437
33	5783029	3.6.21	73	M	CFB		4	26	76	RBM	10L/MIN	NA	3	DM,HTN	0	22	10.8	14.1	89	6	1,84,000	1791	456	502	12	46	18.8	1205	273	1.1	1.02	>50	39	1.01	0.43	36
34	1023296	3.6.21	66	M	CFB		7	36	96	RBM	5L/MIN	NA	3	DM,HTN	0	24	14.3	2.6	75	20	169000	847.6	123	217	13	54	222	573		1.1	1.5	>50	23	0.78	0.78	50
35	1023272	3.6.21	52	M	CFB		2	35	66	RBM	15L/MIN	NA	3	HTN	0	22	13.9	10.9	76	21	140000	516.7	122	819	1	218.6	22.65	1217	5000	1	1.6	>50	52	1.02	0.68	83
36	1021459	3.6.21	56	M	M		4	32	84	RBM	15L/MIN	NA	1	DM	1	20	13	14.7	88	9	234000	923	122	842	12	140	23	765		1.9	1.7	<50	41	1.1	0.32	24
37	1021997	4.6.21	71	M	CFB		7	30	93	NIV		100	1	IHD	1	14	13.5	11.3	95	4	132000	271	128	854	14	14	19.57	660		1	1.8	<50	72	0.81	0.54	43
38	1021081	4.6.21	66	F	CFB		2	26	94	RBM	10L/MIN	NA	1	DM	1	20	12	9.7	86	11	2610000	82.91	178	280	12	28	164	328		1	1.8	<50	32	0.85	0.33	23
39	1021843	4.6.21	84	M	B		11	24	96	O2 MASK	8L/MIN	NA	1	DM,HTN,IHD	1	16	13.3	13	90	4	236000	385.3	189	489	10	29	247	898		1.4	1.2	<50	37	1.06	1.03	31
40	1021421	8.6.21	64	M	CB		5	24	94	NIV		100	2	DM,HTN	2	22	16.7	29.7	95	2	208000	1507	333	502	15	123	25	7028		1.4	1.1	>50	140	1.09	1.22	68
41	1021050	8.6.21	32	M	CFB		20	36	86	RBM	15L/MIN	NA	2	NONE	2	18	15.7	18	71	19	419000	759	555	579	16	158	29	871		1.2	1.1	>50	36	1.01	0.93	51
42	1022051	8.6.21	65	M	CFB		5	28	56	NIV		100	2	DM,HTN	0	22	10.1	17	93	5	107000	2000	567	670	18	142	768	346		1.3	1.1	>50	198	10.8	0.39	57
43	1021386	8.6.21	36	M	MB		2	28	62	RBM	15L/MIN	NA	2	Hypothyroid	0	25	17.1	14.4	81	14	135000	645	678	1257	19	254	20	2789		1.8	1.1	>50	89	1.06	1.2	68
44	1020930	11.6.21	68	M	FB	SoT	3	22	82	RBM	10L/MIN	NA	2	HTN,DM	0	22	14.7	15.8	86	6	140000	632.4	123	732	14	214	23.5	3214	1242	1.6	1.09	>50	51	1.17	1.06	48
45	1020766	11.6.21	56	M	BM		5	26	90	RBM	5L/MIN	NA	1	DM,HTN,IHD	1	16	11.8	6.4	73	22	179000	229	234	243	13	216	102.8	187		1.9	1.08	<50	24	1.15	0.7	21
46	1019711	11.6.21	77	M	CFMB		4	30	86	RBM	15L/MIN	NA	1	DM,HTN	2	20	15.4	5.16	76	19	121000	1015	135	675	18	299	40.9	431	1523	1.4	1.05	<50	48	0.78	0.43	35
47	1021514	12.6.21	65	F	CB		3	32	77	RBM	15L/MIN	NA	1	DM, HTN	1	20	11.8	13	90	6	257000	432	135	629	10	228	78.9	1528		1.6	1.04	<50	55	0.81	0.44	21
48	1021972	12.6.21	69	M	CB	LAPP	5	26	83	RBM	15/MIN	NA	1	DM,HTN,CKD	1	19	9.3	4.3	93	6	203000	904	178	415	22	241	45.6	509		1.1	1.2	<50	142	11.2	0.4	80
49	1021262	12.6.21	68	M	FB	LAPP, W	3	27	86	RBM	15L/MIN	NA	2	NONE	1	17	13.4	16.1	87	7	208000	2000	124	855	22	316.5	28.9	>5000		1.1	1.3	>50	68	2.52	2.91	98
50	1020855	12.6.21	81	M	CFB		4	38	42	NIV		100	2	DM,HTN	1	21	12.3	7.8	64	32	267000	46.52	567	527	23	300	32	4568		1.1	1.4	>50	66	1.32	0.46	49
51	1021636	12.6.21	61	M	CFB		3	36	82	RBM	15L/MIN	NA	2	DM	0	14	15.2	9.4	87	10	203000	1341	569	416	23	314	43.3	350		1.2	1.2	>50	41	0.91	0.98	42
52	1021950	15.6.21	58	M	CFB		3	40	98	NIV		100	2	DM,HTN	0	16	11.7	8.6	92	4	248000	529	533	683	24	252	10.78	1327		1.3	1.3	>50	74	1.03	0.71	115
53	1021326	16.4.2021	57	M	CMB		5	26	86	RBM	10L/MIN		2	IHD	1	22	14	6.2	89	7	205000	1133	522	538	12	250	8.69	4258		1.3	1.5	>50	29	0.79	0.9	40
54	1022949	17.6.21	84	M	CFB		3	24	88	NIV		100	2	HTN	1	20	13.4	22.7	73	8	292000	567	511	885	12	299	22.8	1580		1.09	1.9	>50	108	1.87	0.7	32
55	1021523	19.6.21	52	M	CB		7	26	82	NIV		100	3	HTN,TB	1	21	11.5	34.5	95	3	428000	317	513	820	16	214	29.6	4500		1.08	1.55	>50	43	1.16	7.3	26
56	1023099	19.6.21	81	F	FBM	LAPP	2	27	52	NIV		100	3	HTN	0	17	10.9	12.1	71	18	206000	320.6	122	857	15.5	127.5	127.5	1245		1.1	1.62	<50	47	2.11	0.3	73
57	1020115	19.6.21	78	M	B		3	22	93	RBM	10L/MIN	NA	3	DM,HTN,IHD	1	5					131000		167		16					1.7	1.67	<50	56	0.1	0.3	73
58	1020763	19.6.21	60	F	CB	CP	4	30	90	RBM	12L/MIN	NA	3	DM,HTN,CKD	1	22	9	9	74	18	300000	256.3	670	456	17	214	42.9	2568	1423	1.7	`1.44	<50	32	0.66	0.14	69
59	1023505	21.4.21	90	M	B		3	28	95	RBM	8L/MIN	NA	1	DM,HTN	0	18	17.2	8.1	90	6	167000	1290	129	971	12	241	88.8	>5000		1.1	1.32	<50	29	1.25	0.56	42
60	1022988	21.4.21	60	M	FB	W,LAAP	5	40	31	NIV		100	1	DM	0	17	13.9	14.6	97	2	220000	615	234	613	10	217	110	1193		1.11	1.3	<50	46	1.05	0.79	64
61	1022752	21.4.21	38	M	CFB	W,LAAP	6	16	90	NIV		100	1		0	16	18	39.8	76	5	447000	347	558	1089	11	256	47	1258		1.13	1.5	<50	65	0.89	1	23
62	1020910	21.4.21	59	M	CFB	W	6	28	95	RBM	10L/MIN	NA	1	1	1	18	15.3	7.8	84	12	220000	1566	178	442	10	200.4	58.3	2587		1.11	1.9	<50	36	0.91	0.8	33
63	1021528	21.4.21	70	M	CFB		3	12	78	NIV		100	1	DM,HTN	1	20	13.4	9.8	98	2	139000	2574	179	606	10	189	49.4	968		1.13	1.2	<50	149	2.4	0.8	23
64	1023093	17.6.21	70	M	CF		4	22	93	O2 MASK	10L/MIN	NA	1	DM	1	24	10.3	12.3	98	2	402000	1658	145	653	12	154	52	781		1.5	1.3	<50	158	7.28	8.26	99
65	1022908	10.09.20	55	F	FB		7	24	93	O2 MASK	5L/MIN	NA	1	HYPOTHYROII	1	20	11.3	4.7	68	28	217000	450	200	653	19	42	42	666	5000	1.1	1.2	>50	100	0.9	0.5	252

				70											TREATMENT																OUTCOME				
SGPT	RBS	PCT	HbA1c	Mode of O2 (RBM,HFO,NIV, Ventilator) 1	2	3	FiO2 1	2	3	SpO2 1	2	3	PAO2 ABG-1	2	3	Remdesivir (No. of Doses)	Tocilizumab (No. of Doses)	LMWH (Max Dose)	TOTAL DOSES	NOAC	Unfractioned Heparin (Max Dose)	Type of Steroid used (MethylePred or dexa)	Max dose per day used	TOTAL NO: OF DOSES	Alteplase (Doses)	Alteplase (Number of times Given)	TOFACITINIB	IVERMECTIN	ZINC+VIT C	THROMBOTIC COMPLICATIONS MI,PE,DVT,CVA,DIC	CRITICAL ILLNESS ARDS SEPSIS AKI	ICU/HDU /WARD	HOSPITAL STAY	Improved and discharged	EXPIRED	Worsend and AMA	Improved and AMA	Outcome Date
19	111	0.02		O2 MASK	NRBM	NRBM	10L	60	60	92	94	94	82	-	-	2		40MG	4			Methyl Pred	40MG	6			4		+	_	-	WARD	4	YES				
20	220	0.57		NIV	NIV	NIV	60	80		97%	97%	90%	77%	89%	-	9	1	40mg	8			MethylPred	40mg	8					+		ARDS	HDU	4			AMA		
44	173	2.48		RBM	HFO	NIV	12L/MIN	60L/MIN	100%	92%	93%	91%	58%	77%	77	9	2	40MG	12			Methyl pred	40mg	16					+	DIC	AKI	HDU	10	YES				
27	120	0.01		RBM	NIV	NIV	5L/MIN	100%	100%	96%	94	96	77	72	69	6	1	40MG	4			Methyl pred	80mg	12					+	PE	ARDS	ICU	5		YES			
23	290	0.05		HFO	NIV	NIV	40L/MIN	80L/MIN	100%	92%	99%	90%	67%	69%	76	7	1	40MG	6			Methy pred	40mg	8					+	-	-	HDU	5			AMA		
28	233	0.05		HFO	NIV	NIV	60L/MIN	100%	100	80	80	86	68	69	77	7	2	40mg	8			Ivepred	80mg	16					+	DVT	ARDS	ICU	7		YES			
66	133	0.01		NIV	INTUBATION		100%	100%	100	98	99%	90	45	44	67	8	2	80MG	10			MethylP	1G	3	30MG	1			+	PE	ARDS	ICU	12	YES				
23	111	1		HFO	NIV	HFO	60L	100%	60L/min	94%	97%	93%	77%	78%	89	8	1	40MG	12			Methyl Pred	1 g	3	30	2			+	STEMI	ARDS	ICU	10	YES				
28	322	0.05		HFO	HFO	INTUBATION	60L/MIN	70L/MIN	100%	97	95%	91%	66%	67%	77	7	1	40MG	8			Methylpred	500mg	3					+		ARDS	ICU			YES			
13	44	3.4		NRBM	INTUBATION		10L	100%	100%	88%	67	87	56	68	66	8	3	40MG	8			MethylP	80MG	9					+	DIC	ARDS	ICU				AMA		
13	133	1.33	10.1	HFO	NIV	HFO	60L/MIN	100%	60	96	90%	90	88	89	90	8	1	80MG	12			Methyl Pred	80mg	16					+			HDU	10	YES				
22	222	0.09		HFO	NIV	NIV	50L	60	80	75%	98%	96%	77%	77%	78	9	2	80mg	14			MethylP	500MG	5					+	DIC	ARDS	ICU	12	YES				
16	123	0.29		NIV	NIV	HFO	100	100	80	95	92	90	89	-	-	7		80MG	8			MethylP	80	9					+			HDU	7	YES				
42	83	0.83		NIV	NIV	HFO	100	100	80	98	92%	90	88		-	6		40MG	9			DEXA	12MG	9					+			WARD	6	YES				
39	134	0.1	6.5	INTUBATED			100			92						1		80MG	1			METHYPRED	500MG	1		1			+	PE		ICU	1		YES			
43	145	0.05	8.2	NIV	NIV	HFO	100	80	80	94	90	90	90	-	-	10	2	40mg	8			Methylpred	1gm	STAT+MD					+	-	-	WARD	7	YES				
18	122	0.05		INTUBATED			100			98						4		40MG	4			METHYPRED	120MG	4					+	DIC	ARDS	ICU	3		YES			
329	300	0.05		HFO	NIV	INTUBATED	80L/MIN	100%	100%	92	96%	98%	90%	77%	89	7	3	40MG	10			METHYPRED	1000GM	5					+	DIC	ARDS	ICU	10	YES				
305	199	0.23	10.7	HFO	HFO	HFO	60L/MIN	60	50	86	90	90	77	80	87	3	3	40MG	4			DEXA	12MG	9					+			HDU	3			AMA		
43	144	0.33		NIV	INTUBATED		100			68						9	3	40mg	3			Methylpred	1g	3					+	DIC	ARDS	ICU	3			YES		
44	333	0.5		NIV	HFO	HFO	100	80	80	89	86	89	67	87	88	5	1	40 MG	7			METHYPRED	1000MG	2					+	DVT	ARDS	HDU	6	YES				
28	145	0.03	9.8	NIV	INTUBATED		100	100		86	91%	77	76	66	56	5	2	40mg	4			Methylpred	500mg	5					+	DIC	SEPSIS ARDS	ICU	6			YES		
20	233	0.03		RBM	HFO	NIV	15L/MIN	60L	100	89	92	89	78	80	87	4	1	40MG	5			Methylpred	500mg	2					+			HDU	4	YES				
26	68	0.7	7.6	NIV	HFO	HFO	100	60	70	78	84	87	78	88	88	5	3	40MG	5			Methyl Pred	40MG	5					+		ARDS	ICU	5		YES			
65	111	0.05		NIV	NRBM	NRBM	100	60	60	70	82	82	82	88	89	6	1	80mg	6			Mehtylpred	80	6				6	+		AKI	HDU	6	YES				
55	123	0.17		HFO	RBM	NIV	30LMIN	15L/MIN	100	93	94	95	90	90	77	6	2	80	6			Methyl Pred	1G	3	50MG	1			+	STEMI	ARDS	ICU	4		YES			
80	133	0.02		NIV	NIV	NRBM	100	100	60	92	95	90	90	88	87	6	1	40	6			Methylpred	1000 mg	1					+			HDU	6	YES				
43	145	0.05		RBM	RBM	HFO	10L/MIN	15L/MIN	100	94	97	88%	66%	88%	90	5	1	40MG	6			Methylpred	500	2					+	DVT		WARD	6	YES				
10	333	16.21		NIV	NRBM	NRBM	100	60	60	90	90	90	84	83	6	2	40	7			Methylpred	40	9					+	PE	ARDS	HDU	5			AMA		
34	222	1.2		NIV	NIV	HFO	100	70	70	90	92	92	88	86	84	6	1	40	6			Methylpred	40	16				6	+		SEPSIS	HDU	7	YES				
15	123	1		O2 MASK	O2	O2	10L	10L	8L	93	92	90	90	96	94	4	2	80	8			Methylpred	500	1+MD				6	+	DVT		WARD	7	YES				
21	123	0.03		NIV	NIV	NIV	100	100	100	97	90	86	88	82	78	5	2	40	8			Methylpred	1g	1+MD					+	DIC	ARDS	HDU	5				AMA	
21	145	0.04		RBM	NIV	INTUBATED	10L/MIN	100	100	88	92	96	77	77	80	5	3	40	3			Methylpred	80MG	4	30MG	1	4		+	STEMI	ARDS	ICU	4		YES			
18	134	0.1		NIV	NIV	INTUBATED	100	100	100	92	84	80	66	62	64	11	2	80	6			Methylpred	500	1+MD					+	DIC	ARDS	ICU	5		YES			
20	134	0.12		NIV	INTUBATED		100	100		76	84	77	78	66	62	5	2	80	4			Methylpred	1g	4	50mg	1			+	DIC	ARDS	ICU	4		YES			
29	146	0.23		RBM	NIV	NRBM	60	90	60	84	92	90	-	-	-	2	-	80	5			Methylpred	1g	1+MD				5	+			WARD	5	YES				
19	500	0.44	6.9	NIV	NIV	NIV	100	80	100	93	96	84	89			5	2	80	4			Methylpred	1g	1+MD				5	+			WARD	5	YES				
21	234	0.56		RBM	RBM	HFO	10L/MIN	15L/MIN	60L/MIN	94	89	70	80			4	1	80	6			Methylpred	500	1+MD				6	+	DVT		WARD	6	YES				
14	67	0.65		NIV	NIV	HFO	100	100	60L/min	94	94	89	88	-		5		40	6			Methylpred	1g	1+MD				7	+			WARD	5	YES				
28	77	0.78		NIV	INTUBATED		100	100		94	96	77	77	71	70	2	1	80	3			Methylpred	1g	3					+	DIC	ARDS	ICU	3		YES			
86	567	1.2		HFO	NIV	HFO	60	90	60	80	90%	90	90	90	-	3	1	40	6			Methylpred	1g	1+MD				6	+			WARD	6	YES				
35	420	1.7		NIV	HFO	HFO	100	70	70	94	89	89	90	90	-	5	1	60	5			Dexa	12MG	6				7	+	DVT		WARD	7	YES				
32	124	1		NIV	NIV	INTUBATED	100	100	100	92	60	70	66	66	61	7	1	40	6			Methylpred	1g	4					+	PE	ARDS	ICU	6		YES			
33	189	1.02		HFO	INTUBATED		60	100	90	90	77	77	71	56	-	3	2	80	3			Methylpred	120	6					+		ARDS	ICU	3		YES			
26	200	1.03		RBM	RBM	NIV	15L/MIN	15L/MIN		100	100	92	88	88	89	4	2	40	6			DEXA	12	9				7	+		SEPSIS	HDU	6	YES				
13	101	1.03		NIV	NIV	NIV	60	100	50	94	96	92	78	88		9	1	40	8			Methylpred	120	5				6	+			HDU	6	YES				
30	266	1.8		HFO	NIV	NIV	60	100	100	91	92	88	77			2	1	40	3			Methylpred	1GM	2					+	PE	ARDS	HDU				AMA		
36	123	5.6		NIV	NIV	NRBM	100	100	60	90	90	100	90	80	-	3	2	40	7			Methylpred	80	7					+			HDU	5	YES				
117	146	4.8		NIV	NIV	INTUBATED	100	100	100	92	90	88	87	80		3	2	120	8			Methylpred	1G	1+MD					+	DIC	ARDS	ICU	4		YES			
47	177	2.33		INTUBATED			100			88						1		40	1			Dexa	12MG	STAT					+	DIC	ARDS SEPSIS	ICU	2		YES			
14	189	12.1		HFO	NIV	INTUBATED	60	100	100	90	99	92	80	78		5	1	40	3			Methylpred	120	4					+		ARDS	HDU	3			AMA		
298	199	23.2		NIV	INTUBATED		80	90		93	92	87	81	78		4	2	40	4			Methylpred	80	6	40	1			+	STEMI	ARDS	ICU	4		YES			
22	167	1.62		RBM	NIV	INTUBATED	10L/MIN	100	100	86	94	96	77	56	55	3	1	40	3			methylpred	40	6					+	PE	ARDS	ICU	3		YES			
21	144	1.09		INTUBATED			100			88	66	66	51	44	66	2	1	40	4			Methylpred	1g	3					+		ARDS	ICU				AMA		
15	156	1.1		NIV	NIV	NIV	100	80	60	82	90	90	77	76	84	7	2	40	4			Methyl Pred	40mg	6					+			HDU	5	YES				
171	178	1.23		NIV	NIV	HFO	100	100	80	90	96	90	90	87	87	4	1	40	6			Methylpred	1g	1+MD					+			HDU	6	YES				
67	189	1.5		O2 MASK	O2	O2	-	-	-				95			NONE	NONE		15MG-6DOSES			DEXA	4MG	4				5	+			WARD	5	YES				
152	300	1.7		NIV	NIV	NIV	60	80	40	100	98	96	90			5	2	80	5			methylpred	500	1+MD				6	+	DVT		WARD	7	YES				
16	178	1.6		RBM	NIV		15L/MIN	100		56	96	98	87	88	90	4	1	40	6			methylpred	500	1+MD				5	+			WARD	6	YES				
24	192	1.9		NIV	INTUBATED		90	100		98	96	77	77	71		1	1	80	2			methylpred	1g	1					+	PE		ICU	2			AMA		
25	290	1.5		INTUBATED			100			88	90	88	81	66	56	3	2	80	5			methylpred	1g	3					+		ARDS	ICU	4		YES			
23	288	0.05		HFO	NIV	NIV	40	100	100	90	80	90	80			5	2	80	6			methylpred	1G	1+MD	50	1			+	STEMI	ARDS	ICU	7	YES				
29	233	0.09		NIV	NIV	RBM	100	50	100	100	100	93	77	78		5	1	80	4			methylpred	500	1+MD					+			HDU	5	YES				
45	244	0.1		RBM	NIV	INTUBATED	15L/MIN	100	100	75	92	91				1		40	2			methylpred	120MG	1					+	PE		ICU	2			AMA		
153	333	0.1		OS MASK	HFO	NIV	5L/MIN	50L/MIN	100	93	91	94	-	-	-	8		40MG	6			methylpred	500MG	1+MD					+		ARDS	HDU	5	YES				

					CLINICAL PARAMETERS AT Admission																														Other Labs at Admission					
Sl. No.	IP No	Date of Admission	Age	Sex	Symptoms (C=cough; F=Fever; B=breathlessness; M=Myalgia, Loss of smell=LS; Loss of taste=LT)	Any other symptoms	Time to hospital from symptom onset (Days)	Admission Respiratory rate (RR/min)	Admission SPO2	Admission O2 modality (O2 mask, RBM,HFO, NIV, Ventilator)	Admission O2 rate (L/min)	Admission FiO2	qSOFA	Co-morbidites	Vaccination status	CT severity score(~/25)	Hb 1	TLC1	NEUTROPHIL %1	Lymhocyte % 1	Platelets 1	Ferritin 1	Fibrinogen	LDH 1	Homocysteine	hsCRP (value)	IL-6 1	d-Dimer 1	d-Dimer 2	INR	APTT	ISTH SCORE DIC	Urea	Creatinine 1	Bilirubin	SGOT	SGPT	RBS	Hb/Ac	PCT
1	1026582	10-29-20	37	M	C,F		5	26	85%	O2 MASK	5 L/min	NA	2%	ASTHMA	0	9	15.1	9	65	26	202	148	282	573	19	6.4	44.58	193		1.09	0.9	<5	16	0.8	0.45	17	12	98	-	0.1
2	1026610	27-10-2020	80	M	CFMB		5	32	91%	RA	NA	NA	3%	CKD	0	12	7.5	9.8	79	15	174	267	288	240	15	12	31.6	938		1.31	1.04	>5	126	4.2	0.35	20	10	128	9.1	0.2
3	1026721	31-10-20	68	F	FB		4	18	96%	RA	NA	NA	0	NONE	0	15	10.7	11.7	83	12	262	44.6	287	286	5	13.7	1.5	389		1.01	0.86	<5	24	0.9	0.24	18	17	99		0.1
4	1026613	29-10-2020	60	F	CFMB		2	22	88%	O2 MASK	5L	NA	0	DM	0	12	13.2	9.8	84	13	361	1115	334	388	5.4	148	9.97	408		1.2	0.9	<5	27	0.63	0.53	35	28	174		0.03
5	1026783	1-11-20	25	M	FB		1	16	99%	RA	NA	NA	0		0	5	13.8	6.2	60	27	291	64	395	227	14.6	2.5	1.5	111		1.4	1.03	<5	20	0.9	0.7	18	17	144		0.01
6	1053241	4-6-21	44	M	CFB		5	14	96%	O2 MASK	2L O2	NA	1	HTN	1	15	10.1	10.5	92	6	375	404	468	846		138	17.2	767		1.13	1.07	<5	28	0.85	0.93	44	40	480		0.03
7	1054134	03-06-21	65	F	CB		2	22	90%	O2 MASK	6L O2	NA	1	DM,HTN	1	17	12.1	10.5	86	9	159	1625	362	496		57	9.1	1115		1.23	0.9	<5	79	1.08	0.4	38	11	168		0.08
8	1053539	4-6-21	44	M	CFB		2	26	90%	O2 MASK	5L O2	NA	3	DM,HTN	0	12	16	9.2	88	5	170	1131	660	453		16.6	180	1731		1.26	0.9	>5	44	0.8	0.76	30	20	85		0.13
9	1053531	4.6.21	69	M	CFB		4	18	95%	O2 MASK	4L O2	NA	2	HTN	1	14	13.7	14.7	91	5	268	900	324	811		72.6	26	1184		1.39	0.96	>5	46	1.36	0.32	42	36	52		0.09
10	1053540	4.6.21	37	M	CF		5	12	96%	RA	RA	NA	1	DM,HTN,IHD	1	18	13.3	19.3	86	11	286	367	474	997		18	7.15	311		1.28	0.76	<5	31	0.6	1.06	38	42	156		0.06
11	1053200	4.6.21	39	M	C		3	20	96%	RA	RA	NA	0	NONE	2	9	13.5	24.8	92	3	403	591	423	490		7.9	1.5	218		1.31	0.71	<5	40	0.82	0.45	27	66	191		0.04
12	1053204	4.6.21	62	M	CMF		1	24	85%	O2 MASK	15L	NA	1	DM,HTN	0	14	11.1	8.8	86	10	170	176	423	620		413	424	737		1.31	0.89	<5	22	0.82	0.48	32	10	227		0.38
13	1052971	4.6.21	40	M	F	WEAKNESS	7	15	95%	RA	RA	NA	2	NONE	1	12	13.8	3.8	74	24	162	3052	613	904		105	16.9	5000		1.11	0.9	>5	27	0.68	0.69	266	329	137		0.05
14	1054049	4.6.21	85	M	FM		4	18	96%	RA	RA	NA	3	NONE	1	14	8.8	11.7	74	14	253	257	275	409		81.8	155	5000		1.46	0.85	>5	96	1.29	0.42	21	14	86		10.23
15	1053667	4.6.21	55	M	CFB		3	26	92%	O2 MASK	3L O2	NA	3	NONE	1	15	13.9	19.6	96	2	368	1294	496	725		339	38.6	699		1.2	0.86	<5	44	0.68	0.68	40	41	108		0.06
16	1054303	4.6.21	31	M	CFBM	WEAKNESS	4	22	89%	NRBM	5L O2	NA	2	DM,HTN,IHD	1	24	12.6	9	82	14	228	800	781	500		171	122	333		1.19	0.9	<5	23	0.86	0.36	51	36	198		0.16
17	1052030	4.6.21	54	M	CB		3	21	90%	O2 MASK	6L	NA	3	DM	1	22	13.3	10.8	87	10	214	1024	435	583		264	84	278	778	1.06	0.91	<5	38	1.05	0.89	50	48	112	6.3	O.08
18	1052979	4.6.21	50	F	CM	WEAKNESS	2	14	99%	RA	RA	NA	1	DM	1	19	11.6	13.8	92	5	184	619	376	620		43.4	15.7	377		0.91	0.83	>5	97	1.95	0.17	39	12	124		0.25
19	1053907	4.6.21	72	M	CFMB	DIARRHOEA	2	12	96%	RA	RA	NA	0	N0NE	1	12	13.1	17.4	95	3	304	438	614	257		13.4	45.12	253		1.28	0.95	<5	88	1.65	0.63	27	27	204		0.15
20	1054129	1.6.21	45	M	CFB		5	22	89%	O2 MASK	RA	NA	3	TB, ASTHMA	1	20	11.2	13	70	14	278	741	468	303		13.5	41	1317		1.34	0.9	>5	36	0.89	0.2	20	14	470		0.12
21	1053872	2.6.21	43	M	CFMB	WEAKNESS	2	16	97%	RA	RA	NA	0	DM,HTN	2	14	12.7	9.2	80	16	211	733	417	229		16	1.5	131		1.04	0.85	<5	24	1.41	0.17	30	21	104		0.12
22	1054030	2.6.21	38	M	CFMB		4	12	96%	RA	RA	NA	1	NONE	1	12	16.9	13.2	77	6	236	186	555	363		51.7	31.3	459		1.16	0.83	<5	34	0.7	0.76	28	49	102		0.05
23	1053968	2.6.21	38	F	CFB		3	10	99%	RA	RA	NA	0	NONE	0	6	15.1	5.9	86	11	311	294	287	190		10.2	2.7	96	326	1.2	0.9	<5	18	0.69	0.33	25	19	100		0.05
24	1053215	20.5.21	52	M	CFB		5	20	93%	RA	2L/MIN	NA	1	HTN	0	5	18.9	38	92	5	480	290	321	313		10.1	17.5	1385		1.23	0.85	>5	75	1.14	0.7	28	28	358		0.2
25	1054158	2.6.21	35	M	CF		3	9	97%	RA	NA	NA	1	NONE	0	9	16.9	5.4	72	28	153	638	401	230		17.6	52	826		2.3	0.8	>5	21	1.12	0.4	28	28	114		0.09
26	1053453	1.6.21	67	F	CM		3	15	90%	O2 MASK	2L/MIN	NA	1	HTN,DM	1	15	13.2	8.3	81	15	226	127	423	232		111	33.4	485		1.25	0.94	>5	18	0.65	0.33	33	28	107		0.09
27	1054285	6.6.21	40	F	CB		3	12	94%	O2 MASK	2L/MIN	NA	1	NONE	1	15	10.9	4.1	64	30	48	10	256	173		1.9	13.3	189		1.14	0.96	<5	13	0.7	0.2	17	14	200		0.04
28	1054277	3.6.21	52	M	CFB		8	16	90%	O2 MASK	2L/MIN	NA	1	DM,HTN	2	14	11.9	9.8	70	21	306	355	417	254		12.5	24.7	121		1.22	0.87	<5	39	0.7	0.26	31	29	237		0.04
29	1054278	3.6.21	36	M	CMB		3	9	99%	RA	NA	NA	1	NONE	1	15	13.6	8.8	80	12	267	79	400	199		65.7	43	236		1.1	0.86	<5	20	1.26	0.27	23	23	192		0.23
30	1054191	2.6.21	41	M	CMB		3	12	94%	O2 MASK	1L/MIN	NA	1	HTN	1	9	13.5	8.2	62	24	244	709	537	371		15.1	120	283		1.2	0.9	<5	25	0.8	0.25	30	27	90		0.09
31	1053452	3.6.21	83	M	B	chest pain	1	16	95%	O2 MASK	1L/MIN	NA	2	DM	1	11	13.5	8.2	66	24	132	129	229	266		1.9	55.9	409		1.17	0.94	>5	36	1.35	0.61	44	37	54		0.09
32	1053013	10.6.21	70	M	CMF	chest pain	2	13	97%	RA	NA	NA	1	DM,HTN	2	13	13.8	3.1	78	15	109	1173	385	461		70	75	289		1.13	0.92	<5	22	0.88	0.6	53	29	109		0.09
33	1054223	5.6.21	45	M	CF		4	15	97%	RA	NA	NA	1	NONE	1	14	13	4.6	79	16	149	833	384	233		37.5	50.6	240	933	1.13	0.92	<5	20	1.11	0.32	31	33	149		0.12
34	1054154	2.6.21	85	M	CBF		2	26	88%	O2 MASK	4L/MIN	NA	2	DM,ASTHMA	1	22	12.1	8.4	83	12	295	147	482	305		50.5	78.3	5000		1.1	0.67	<5	43	1.39	0.39	66	86	265		0.13
35	1052456	15.5.21	52	F	CB		3	22	91%	O2 MASK	2L/MIN	NA	1	DM,HTN	1	16	13.7	2.3	73	19	171	298	461	504		29	8.1	314		1.19	1	<5	24	0.6	0.4	34	26	128		0.01
36	1054263	3.6.21	49	F	CMF		3	16	99%	RA	NA	NA	1	NONE	2	9	10.1	5.4	70	21	306	94	606	362		72	67.5	286		1.19	1	<5	12	0.5	0.14	26	17	93		0.01
37	1053241	3.6.21	44	M	CB	weakness	3	20	95%	O2 MASK	1L/MIN	NA	1	NONE	2	10	10.6	4.1	89	7	126	404	468	846		138	17.2	767	217	1.13	1.07	<5	28	0.85	0.9	44	40	480		0.03
38	1054134	1.6.21	65	F	CF	weakness	3	19	96%	RA	NA	NA	1	NONE	1	11	12.1	10.5	86	9	159	1625	376	496		57.4	9.19	639		1.23	0.9	<5	79	1.08	0.4	38	11	168		0.08
39	1053539	26.5.21	44	M	CB	weakness	3	12	99%	RA	NA	NA	1	NONE	1	8	16.2	23	96	3	201	1131	660	453		16.6	180	519		1.17	0.68	<5	44	0.8	0.7	30	20	85		0.13
40	1053531	26.5.21	64	M	CBF	weakness	3	21	94%	O2 MASK	2L/MIN	NA	2	NONE	0	15	13.7	14.7	91	5	268	900	324	811		72	26	1184		1.39	0.96	<5	46	1.36	0.3	42	26	156		0.09
41	1053540	26.5.21	37	M	F		7	15	96%	RA	NA	NA	2	NONE	0	7	12.8	19.1	92	4	418	263	474	443		209	215	311		1.28	0.76	<5	31	0.65	1.06	38	42	156		0.07
42	1053241	24.5.21	44	M	BFM		7	26	88%	O2	4L/MIN	NA	1	DM	0	18	10.6	4.1	89	7	126	404	468	846		138	17.2	541		1.03	1.07	>5	28	0.8	0.9	44	40	480		0.1
43	1054134	1.6.21	65	F	CB		5	26	86%	RBM	2L/min	NA	1	CKD,IHD,DM	1	16	12.1	10.5	86	9	159	1625	376	496		57	9	1115		1.23	0.9	>5	79	1.08	0.41	38	40	168		0.08
44	1052971	20.5.21	40	M	CFB		4	22	93%	O2 MASK	6L/MIN	NA	1	DM,HTN	1	4	13.8	3.8	74	24	163	3052	613	904		105	16.9	5000		1.11	0.9	>5	27	0.6	0.69	266	329	137		0.05
45	1053667	27.5.21	55	M	B		5	18	95%	RBM	15L/MIN	NA	1	DM	0	5	13.8	19.6	96	2	368	1294	496	725		339	38	699		1.2	0.86	>5	44	0.62	0.68	40	41	108		0.27
46	1054049	31.5.21	85	M	CF		3	12	98%	RA	NA	NA	1	DM,HTN,CKD	1	15	11.3	5.9	86	9	175	257	275	409		81	11.3	5000		1.46	0.86	>5	96	1.29	0.4	21	14	86		10.2
47	1052979	21.5.21	50	F	C,F, B		2	22	85%	O2 MASK	5L/MIN	NA	1	DM, HTN	0	18	11.6	13.8	92	5	184	619	376	620		43	15	568		1.02	0.7	>5	97	1.95	0.17	39	12	124	9.7	0.2
48	1053907	4.6.21	72	M	C, F		5	22	92%	O2 MASK	4L/MIN	NA	1	DM, HTN	1	16	13.4	13.1	95	3	304	438	614	322		13.4	45	253		1.28	0.95	<5	88	1.56	0.6	27	27	204		0.15
49	1053908	29.5.21	77	M	FC		2	18	96%	RA	NA	NA	1	DM, HTN	0	9	11.2	18.3	94	3	163	1100	357	882		18.2	28	400		1.88	1.03	<5	93	1.97	1.1	39	35	283		0.12
50	1052988	3.6.21	71	M	F		5	32	77%	RBM	10L/MIN	NA	1	DM	1	16	14.4	14.7	85	5	354	495	313	396		3.5	16	1096		1.28	1.17	<5	38	0.97	0.8	40	42	77	7.5	0.05
51	1053953	3.6.21	32	M	CFM	weakness	1	9	98%	RA	NA	NA	1	NONE	1	8	13.9	14.8	92	7	348	605	1109	540		8.2	5.8	612		1.28	0.8	<5	45	0.7	1.02	25	41	120		0.05
52	1053825	29.5.21	72	M	CB		5	24	84%	RBM	10L/MIN	NA	3	DM	1	22	13.9	14	93	5	138	1054	328	695	641	93	90.6	5000	6883	1.3	0.8	<5	61	0.6	0.43	22	32	180		0.14
53	1052922	20.5.21	86	F	B		1	26	95%	RBM	5L/MIN	NA	1	DM, HTN, IHD	2	18	11.9	5.1	92	7	152	436	454	344		46	8.3	893		1.1	0.85	<5	15	0.62	0.3	32	15	180		0.2
54	1053123	22.5.21	35	F	CB		3	30	92%	O2 MASK	7L/MIN	NA	3	DM, HTN	1	20	7.3	1.7	62	30	80	76	400	694		93	78.9	1407		1.1	1.17	>5	12	0.9	0.15	77	71	290		0.2
55	1052511	2.6.21	46	M	CBM		2	22	87%	O2 MASK	4L/MIN	NA	3	NONE	0	16	12.8	12	92	4	323	1503	619	784		161	13	1215		1.39	0.94	<5	26	0.8	0.7	43	68	300		0.3
56	1054117	1.6.21	47	M	BF		2	21	96%	O2 MASK	5L/MIN	NA	3	DM, HTN, Parkinsonism	0	13	11.9	9.7	95	4	241	12456	448	945		230	21	1544		2.2	1.44	>5	114	7.3	0.2	71	68	168		3.52
57	1054243	2.6.21	75	M	CF		1	14	96%	RA	NA	NA	1	HTN	0	7	13.6	5.2	70	24	95	911	299	556		14.5	83.9	603		0.9	1.11	>5	41	1.44	0.14	203	105	132		0.3
58	1053915	30.5.21	23	M	CF		5	22	92%	2L/MIN	NA	NA	1	DM,HTN	1	17	9.3	11	70	19	353	418	256	424		271	176	> 5000		1.24	0.8	<5	301	0.7	0.6	38	21	220		0.1
59	1053438	25.5.21	35	M	FB		8	20	94%	O2 MASK	6L/MIN	NA	1	NONE	1	14	16	5.1	78	15	300	891	400	523		101	143	347		1.1	0.9	<5	171	0.9	0.39	30	22	108		0.1
60	1053341	25.5.21	68	M	B		5	28	82%	RBM	12L/MIN	NA	1	COPD	2	19	15.4	6.3	84	12	225	1448	341	579	434	49	17.9	523		1.53	1.01	>5	24	0.68	0.8	117	93	91		0.08
61	1053492	26.5.21	40	M	MB		3	16	97%	RA	NA	NA	1	HTN	1	9	14.7	7.1	91	6	225	898	412	533		204	45	254		1.25	1	>5	20	0.7	0.4	106	64	155		0.04
62	1054021	31.5.21	42	M	CFMB		4	20	95%	O2 MASK	2L/MIN	NA	1	DM, HTN	1	16	14.2	8.7	71	21	315	977	273	381		8.9	9.7	328		1.11	0.9	<5	29	0.7	0.36	25	24	167		0.03
63	1053670	27.5.21	46	M	FB	chest pain	3	16	100%	RA	NA	NA	1	DM, HTN, IHD	1	20	11.7	7.4	51	40	259	366	359	189		3.1	6.77	724		1.02	1.03	<5	11	0.9	0.6	13	15	124	12.9	0.03
64	1052030	10.5.21	54	M	CB		3	18	95%	RA	NA	NA	2	NONE	1	1-13	13.3	10.8	88	10	214	633	435	621		84	264	278		1.06	0.9	<5	38	1.05	0.89	50	48	174		0.08
65	1054135	1.6.21	54	M	F		2	17	99%	O2	5L/MIN	NA	2	DM, HTN	0	21	10.5	3.8	72	22	96	874	317	516		133	108	5000		1.06	0.9	>5	64	9.2	0.4	153	124	84		0.08
66	1053694	27.5.21	32	F	F		3	22	90%	O2 MASK	2L/MIN	NA	1	DM, HTN	0	16	9	11	73	28	215	29	435	383		80.6	18	478		0.56	1.2	<5	10	0.4	0.4	72	22	219		0.19
67	1053129	22.5.21	68	F	M		2	14	98%	RA	NA	NA	1	CA BREAST	0	9	12.9	13.8	91	7	229	509	435	309		91	12	504		1.28	1.2	<5	22	0.9	0.7	30	60	333		0.28
68	1053618	3.6.21	59	F	F	Generalised weakness	4	18	98%	RA	NA	NA	3	NONE	0	16	10.7	9	90	6	164	55	389	359		5.2	35	1400		1.2	1	>5	15	0.6	0.2	123	61	91		0.28
69	1053852	29.5.21	74	M	FM		5	18	96%	RA	NA	NA	1	NONE	0	6	12.6	7.7	93	5	214	1472	606	374		207	216	609		1.2	1	<5	32	1	0.9	28	21	113		0.02
70	1053955	30.5.21	50	M	CB		4	26	88%	O2 MASK	5L/MIN	NA	1	NONE	0	11	12.5	15	85	7	664	161	357	473		15	16.73	1419		1.2	1.4	>5	46	1.03	0.4	44	51	114		0.02
71	1053908	30.5.21	77	M	CB	WEAKNESS	3	22	99%	RA	NA	NA	1	DM	0	8	12	11.1	87	6	557	1100	357	882		18.2	28.6	5000		1.62	1.03	>5	52	4.5	0.5	29	26	283		0.12
72	1028535	27.2.22	47	M	CMF	WEAKNESS	3	14	99%	RA	NA	NA	1	NONE	1	6	13.8	12.76	83	15	154	156	54	309	23	23	16	20				<5	32	0.9	0.9	24	38	104		0.086
73	1028536	27.2.22	63	M	CMF		4	12	98%	RA	NA	NA	2	NONE	1	14	9.9	25	91	2	303	1020	47	380	10.4	10.4	144	1328	192	0.85	0.9	>5	183	10.8	0.24	24	10	97		0.86
74	1027390	27.2.22	73	M	CBF		7	28	91%	O2 MASK	2L/MIN	NA	1	NONE	1	6	8.5	17	94	4	199	2441	270	641	5.3	55	38	1467		1.19	0.06	>5	303	6.2	0.64	20	20	83		1.19
75	1028226	27.2.22	53	M	FM		3	16	98%	RA	NA	NA	1	NONE	1	9	13.2	11	73	20	288	437	376	307	9.4	28	24	457		1.19	0.85	<5	45	1.4	0.4	25	32	96		1.19
76	1028137	27.2.22	62	M	CFM		5	20	98%	RA	NA	NA	1	NONE	1	6	12.4	9.8	84	10	213	102.1	441	248	6.5	6.4	6	143		1.16	1.01	<5	35	0.82	0.35	31	23	94		1
77	1028094	27.2.22	58	M	FB		2	24	97%	RA	1L/MIN	NA	1	DM,HTN	1	15	12.5	5.9	76	20	282	242.7	409	728	5.35	6.7	18	364		1.2	0.9	<5	77	1.26	0.24	30	31	256		1
78	1049200	27.2.22	40	M	CFB		2	15	97%	RA	NA	NA	1	NONE	2	12	17.9	11.2	84	13	248	408	670	395	9.67	142.6	600	324		1.22	0.96	<5	25	1.02	1.13	23	27	97		0.01
79	1049077	14.4.22	27	M	MF		3	18	98%	RA	NA	NA	1	NONE	0	9	17.2	5.3	61	30	121	463	414	308	30.19	7.2	10.24	164		1.17	0.9	<5	16	0.9	0.4	28	40	239		0.1
80	1049485	16.4.22	64	M	MFC		2	16	98%	RA	NA	NA	1	DM, HTN, IHD	2	12	11.7	4.1	76	16	158	86.1	389	304	7.1	22	98	201		1.04	1	<5	24	0.77	0.21	37	35	149		0.1
81	1049491	16.4.22	65	M	CMB		3	19	99	RA	NA	NA	1	NONE	0	6	11.1	3.79	75	15	108	187	1870	460	223	118	50	745		1.08	1.08	<5	33	1	0.7	47	24	107		0.08
82	1049021	13.4.21	26	F	CF		5	22	98	RA	NA	NA	1	NONE	1	9	11	5.3	77	90	164	126	436	490	5.45	2.1	7.1	393		1.08	1	<5	17	1	0.9	33	40	147		0.08
83	1049196	15.4.21	29	M	BM		5	24	89	O2 MASK	5L/MIN	NA	1	DM	1	18	15.3	5.9	69	27	155	865	414	209	20.7	7.7	2.48	635	356	1	1.11	>5	34	1.03	0.61	31	29	242		0.12
84	10491165	15.4.21	37	F	CB	LOOSE STOOLS	10	26	98	O2 MASK	2L/MIN	NA	1	DM,HTN	0	20	13.7	4.81	83	12	211	339	480	321	50.5	13.8	3.1	200		1	1.11	>5	173	5.19	0.34	21	35	222		0.13
85	1032967	29.12.20	59	M	CB		3	26	89	O2 MASK	4L/MIN	NA	3		0	24	7.2	19.3	95	1	65	2420	370	1487	25.67	73.9	602.1	434		1.24	0.94	>5	43	1.3	0.98	78	55	241		19.9

			70										TREATMENT																				OUTCOME			
Mode of O2 (RBM,HFO,NIV, Ventilator) 1	2	3	FiO2 1	2	3	SpO2 1	2	3	PO2 (ABG) 1	2	3	Remdesivir (No. of Doses)	Tocilizumab (No. of Doses)	LMWH (Max Dose)	LMWH TOTAL DOSES	NOAC	Unfractioned Heparin (Max Dose)	Type of Steroid used (MethylsPred or dexa)	Max dose per day used	TOTAL DOSES	Thymosine 1 Alpha (No of doses)	Plasma (No. of times used)	Cytosob (Cycles)	Plasma Exchange (Cycles)	Alteplase (Doses)	Alteplase (Number of times Given)	TOFACITINIB 10MG OD	IVERMECTIN	VITC+ZINC	THROMBOTIC EVENT-DVT,PVD,PE,CVA,MI,DIC.	CRITICAL ILLNESS-AKI,SEPSIS,ARDS	ICU/HDU/WARD	HOSPITAL STAY	Improved and discharged	EXPIRED	Worsend and AMA	Improved and AMA
HFO	HFO	O2 MASK	80	40	10L	97%	95	94	90	-	-	4		80mg	6			ivepred	50mg	10									+	DVT		I	8	Yes			
NIV	NIV	NIV	100	80	80	94	92	92	88	90	90	5	1	80mg	10			methyl pred	50mg	14									+	DVT		H	10	YES			
RA	O2 MASK	RA		3L	-	94	96	96	94	-	-	3		80mg	5			methyl pred	80mg	6									+			I	5	yes			
NIV	NIV	O2 MASK	90	80	8l	97	90	95	76	86	90	7		120mg	7			methyl pred	500 mg	Stat		1			50mg	1			+			W	7	yes			
RA	O2 MASK	RA	-	3L	-	94	92	95	98	-	-	-		40mcg	4			methyl pred	40	4									+			W	4	yes			
O2 MASK	HFO	O2 MASK	8L	70	6L	94%	90	94	90	-	-	6		80MG	6			methyl pred	500MG	STAT									+			W	5	yes			
NRBM	NRBM	RA	8LO2	2LO2	-	93%	95%	93%	90	-	-	5		80MG	6			methyl pred	80mg	8									+			W	6	yes			
NRBM	NRBM	NRBM	15L	15L	10L	93%	92%	90	66	68.4	-	10	1DOSE	80 MG	12			methyl pred	80MG	14									+	CVA		I	7				AMA
HFO	HFO	HFO	70	70	60	84%	88	90	60	-	-	10	1DOSE	80MG	14			methyl pred	80MG	14									+	PE?		I	12	yes			
RA	RA	RA	-	-	-	96%	95%	96%	98	-	-	3		40MG	4			methyl pred	80MG	4							4 DOSES		+			W	4	yes			
RA	RA	RA	-	-	-	94%	96%	96	95	-	-	0		0	0	15MG 3DOSES		methyl pred	40 Mg	2							3		+			W	3	yes			
O2 MASK	HFO	HFO	5L	40L	50L	85%	94%	94%	92	-	-	8	1	80MCG	7			methyl pred	1000 MG	STAT +MD									+	DVT		I	7	yes			
NIV	VENTILATOR	VENTI	100	100	100	66%	70%	72%	74	80	66	6		80MG	3			methyl pred	1000	3 DOSES									+	PE	ARDS,AKI	I	3		EXPIRED			
NIV	VENTI	VENTI	100	100	100	80%	88%	70	70	66	62	4	1	80 MG	4			DEXA	12 MG	4									+	PE	ARDS,AKI	I	4		EXPIRED			
NIV	HFO	HFO	80	60	60	92%	90%	86	84	-	-	6		80 MG	6			ivepred	80 MG	6									+	DVT		I	6	yes			
5L O2	6L02	8L	50	50	40	92%	93%	96	92	_	-	3		40	4			ivepred	40	6									+		ARDS	ICU	5	yes			
5L O2	10L	10	40	60	60	92%	96%	94	90	-	-	0		40	3			IVEPRED	40	3							4 DOSES		+			I	3	yes			
02 S0S 2L	5L O2 MASK	5L	30	40	40	96%	94	96	94	-	-	NONE		-	-	15 MG 5 DOSES		IVEPRED	40	3							4 DOSES		+			W	4	yes			
5L O2	8L	6L	40	45	45	94%	94	93	90	-	-	4	1DOSE	40	6			IVEPRED	80	6									+			W	6	yes			
NRBM	NIV	NIV	60	70	80	92%	94	94	84	-	-	5	1DOSE	80mg	5			ivepred	500mg	3+MD									+	PVD		I	8			AMA	
RA						94%	94%	95%	-	-	-	-		40	3			IVEPRED	-								6DOSES		+			W	4	yes			
RA	5L O2 MASK	3L O2	RA			96%	92%	95%	-	-	-	3		40mg	3			methyl pred	80mg	3							6DOSES		+		ARDS	I	4	yes			
RA	3L	3L	-	30	30	99%	96	96	-	-	-	5		80mg	3			methyl pred	40	3							4		+			H	3	yes			
4L	6L	6L	40	40	40	93%	95%	97%	90	-	-	4		40mg	6			methyl pred	80mg	6							-		+		AKI	I	6	yes			
RA	RA					96%	97%					3		40mg	3			dexa	12mg	STAT							3 DOSES		+			W	3				AMA
2L	4L	10L	30	45	60	90%	90%	92%	86	-	-	6	1 DOSE	40mg	7			methyl pred	80mg	10									+			W	7	yes			
RA	RA	RA	-	-	-	96%	99%	96%				3		40mg	-	15MG 3DOSES		methyl pred	80mg	STAT+MD							3 DOSES		+			W	3	yes			
2L	3L	1L	30	30	-	94%	92%	95%	-	-	-	-	-	40mg		15MG 5 DAYS		methyl pred	80mg	STAT+MD							4 DOSES		+			W	4	yes			
RA	5L O2 MASK	5L	-	40	40	99%	95	95	-	-	-	5	1	40mg	5			methyl pred	80mg	6									+			W	5	yes			
RA	RA	5L	-	-	40	96%	98%	99%	-	-	-	5	1 DOSE	40mg	10			methyl pred	40 Mg	10									+			W	5	yes			
RA	HFO	HFO	-	80	80	96%	92%	96	86	-	-	8	1 DOSES	40mg	8			dexa	12mg	8									+	DVT		W	8	yes			
HFO	HFO	NRBM	80	80	60	99%	98%	94	77	89	-	5		40MG	6			dexa	12mg	6							6DOSES		+			W	6	yes			
1L/MIN	2L/MIN	NRBM		-	40	92%	94%	100%	84	-	-	5	1 DOSE	40MG	5			METHYLPRED	80MG	5							4 DOSES		+			W	8	yes			
HFO	HFO	NIV-VENTI	60L	60L	100	95%	96%	95%	80	77	74	8	2 DOSES	40mg	12			methyl pred	80mg	14									+	STEMI,PE	ARDS	I	6		EXPIRED			
O2 MASK	O2 MASK	RA	SOS	SOS	-	96%	92%	99%	-	-	-			40mg	3			methyl pred	80mg	STAT+MD							3 DOSES		+			W	3	yes			
RA	RA	RA	-	—	-	96	96	98	-	-	-	NONE		40MG	-	15MG 5 DOSES		DEXA	4MG	STAT +MD							4 DOSES		+			W	4	yes			
02 MASK	02 MASK	RA	SOS	SOS	-	91%	93%	99%	-	-	-	5		80mg	4			ivepred	80mg	STAT+MD							4 DOSES		+			W	5	yes			
RA	RA	O2 MASK	-	-	SOS	96%	97%	94	-	-	-	5		80mg	5			ivepred	80mg	5							5 DOSES		+			W	5	yes			
RA	O2 MASK	NRBM	SOS	SOS	60	96%	92%	98%	90	90	-	7	2 DOSES	40MG	6			IVEPRED	40 MG	8									+			W	6	yes			
NIV	NIV	NRBM	50	50	40	96%	98%	96	77	-	89	7	2 DOSES	40	10			DEXA	12MG	18									+	DIC	ARDS,AKI	I	10	yes			
NRBM	NRBM	O2 MASK	60	60	SOS	96%	96%	97%				8	2 DOSES	40	10			DEXA	12MG	14									+		ARDS	I	8	YES			
O2 MASK	RA	O2 MASK	SOS	-	SOS	92%	99%	96	-	-	-	3		40mg	3			DEXA	12MG	STAT +MD							4 DOSES		+			W	4	YES			
NRBM	NRBM	O2 MASK	10L	8L	6L	94%	98%	94	-	-	-	4		80Mg	-	15 MG 5 DOSES		Methyl prednisone	40Mg tid	12							5 DOSES		+			W	5	YES			
HFO	NIV	NIV	70	80	ENTILATE	85%	88%	83%	77%	77	72	8	2 DOSES	40Mg	8			Methyl prednisone	100OMg	3 DOSES									+	PE	ARDS,SEPSIS	I	5		EXPIRED			
NRBM	NRBM	O2 MASK	15L	12L	8	95%	95%	94	80	-	-	6	1 DOSE	80Mg	8			Methyl prednisone	80Mg	13							6DOSES		+			W	6	YES			
NIV	VENTI	VENTI	100	100	100	90%	88%	86	56	77	72	6	2 DOSES	80Mg	6			Methyl prednisone		1000MG 3									+	DIC	ARDS,AKI	I	3		EXPIRED			
NRBM	NRBM	NRBM	4L	10	10	94%	98%	99%	89	-	-	6	1 DOSE	80Mg	8			Methylpred	120mg	6							6DOSES		+			H	6	YES			
O2 MASK	RA		4L			100%	95%					6		80 Mg	5			Dexamethasone	16mg	3 DOSES							6DOSES		+			H	5	YES			
RA	NRBM	O2 MASK		10L	8L	96%	99%	95	90	-	-	6		80 Mg	8			Methyl prednisolone	80 mg	8							5 DOSES		+			H	6	YES			
NRBM	NRBM	NRBM		10L	15L	10	95%	97%	99%	88	-	-	8		40 Mg	10			Methyl prednisolone	500 Mg	3 DOSES							-		+			H	8	YES			
RA	RA	O2 MASK			SOS	98%	98%	99	-	-	-	NONE		NONE		15 MG 5 DOSES		DEXA	12MG	3 DOSES							6DOSES		+			H	4	YES			
NIV	NIV	VENT	60	70	100	92%	94%	86%	82	80	80	7	2 DOSES	80 Mg	6			Dexamethasone	12 Mg	16						50 Mg			+			W	6	YES	EXPIRED			
NRBM	NRBM	NRBM	10L	15L	10	95%	97%	99%	88	-	-	8		40 Mg	10			Methyl prednisolone	500 Mg	3 DOSES							-		+			H	8	YES			
RA	NRBM	O2 MASK		10L	8L	96%	99%	95	90	-	-	6		80 Mg	8			Methyl prednisolone	80 mg	8							5 DOSES		+			H	6	YES			
NRBM	NRBM	O2	10	8	6L	94%	94%	94%	90	-	-	6	3 DOSES	40 Mg	12			Methyl prednisolone	1000 Mg	3+MD						50 Mg			+	DIC	AKI,ARDS	I	6		EXPIRED			
O2 MASK	O2 MASK	O2 MASK	6L	2L	2L	99%	98%	97%	-	-	-	NONE		40 Mg	4			Dexamethasone	8 Mg	STAT +MD							5		+			W	5	YES			
NRBM	RBM	O2	10L	8L	2L	99%	92%	94	90	-	-	6	1 DOSE	80 Mg	7			Methyl prednisolone	40 Mg	8							7		+		ARDS	H	7	YES		Worsened		
RBM	RBM	O2	8	8	6	96%	96%	98%	88	-	-	5	1 DOSE	80 Mg	6			Methyl prednisolone	40	12							7		+			W	7	YES			
O2 MASK	O2 MASK	RA	5L	2L	NA	92%	94%	98%	-	-	-	4		40 Mg	4			Methyl prednisolone	40 Mg	6							5		+			I	5	YES			
RA	RA	O2	-	-	4L	98%	97%	95	-	-	-	3		80 Mg	3			Methyl prednisolone	40	6							3		+			W	3				Improved and AMA
RA	O2 MASK	O2 MASK	-	5L	5L	97%	96	94	86	-	-	5	1 DOSE	80mg	6			Methyl prednisone	80mg	8							6		+			W	6	YES			
O2	NRBM	NRBM	4L	8L	8L	99%	97	95	-	-	-	8	2 DOSES	80mg	10			Methylpred	80mg	12						50 Mg			+		ARDS,SEPSIS	I	9		EXPIRED			
RBM	RBM	O2	8L	6L	6L	98%	98%	95	90	-	-	5	1 DOSE	80mg	8			Methyl prednisone	80mg	6							7		+			W	6	YES			
RA	RA	O2	-	-	4L	96%	98%	97				-		80mg	4			Methyl prednisone	80mg	4							5		+			W	4	YES			
NIVNIV	NIV	NIV	60.0%	50.0%	50.0%	98%	96	82	77	85	89	8	2 DOSES	40	6			DEXA	12MG	8						50MG			+		ARDS	I	4			WORSENED		
RA	O2 MASK	RA	-	3L/MIN	-	98%	90%	98%				6		40MG	6			Methlypred 80mg		8							6		+			W	6	YES			
HFO	NRBM	NRBM	48 L	60.0%	60.0%	90%	90	92	68%	-	-	6	2 DOSES	80mg	8			IVEPRED	80mg	12							7		+			W	7	YES			
NIV	NIV	HFO	100	100	80	96%	98%	92	76	_	_	8	2 DOSES	80mg	8			IVEPRED	80mg	12						50 Mg			+	/PE/DIC	ARDS,	I	6		EXPIRED			
RA	RA	O2				98%	99%	98				6		40MG	4			IVEPRED	80MG	6							6		+			W	5	YES			
HFO	NIV	NIV	100	100	100	98%	99%	90	86	-	_	8	2 DOSES	40MG	8			IVEPRED	80MG	12						50 Mg			+			HW	6	YES			
O2 MASK	O2 MASK	RA	2L	2L		98%	97%	98%				5		40mg	6			METHYL PRED	80mg	8							6		+			W	5	YES			
RA	RA	O2			SOS	99%	98%	99	-	-	-	NONE		NONE		15 MG 5 DOSES		DEXA	12MG	4							5		+			H	5	YES			
RA	O2 MASK	RA	3L/MIN	RA	SOS	98%	90%	96%	_	-	-	4		NONE		15 MG 5 DOSES		METHYL PRED	80 MG	6							6		+			W	6	YES			
RA	RBM	NA	NA	6L	RA	99%	93%	97%				6		80mg	6			METHYLPRED	80mg	8							6		+			W	6	YES			
O2 MASK	RBM	RA	5L/MIN	5L/MIN	NA	98%	99%	98%				6		80MG	6			METHYLPRED	80MG	7							7		+			W	7	YES			
RA	RA	O2 MASK	-	-	SOS	96%	99%	97				NONE		80mg		15 MG 5 DOSES		IVEPRED	80mg	5							5		+			H	5				YES
RA	O2 MASK	O2 MASK	-	4L	6L	97%	94	95	-	-	-	NONE		NONE		15 MG 5 DOSES		DEXA	12MG	5							5		+			W	5	Yes			DISCHARGED ON REQUEST
RA	O2 MASK	RA	NA	2L./MIN	RA	98%	92%	98%				5		80	5			methyl pred	80	5							5		+			W	5	YES			
RA	RA	O2 MASK	NA	NA	SOS	96%	98%	98				NONE		40MG		15 MG 5 DOSES		METHYL PRED	80MG	4							4		+			W	4				YES
RBM	RBM	RBM	12L	10L	5L	96	94	96	88	88	94	6	2 DOSES	40	8			DEXA	12	12									+			W	8	YES			
RBM	RBM	ROOM AIR	15L	15L	10L	97	99	95	86	-	-	7	2 DOSES	40	10			DEXA	8	12									+			W	8	YES			
RBM	RBM	O2	8L	5L	SOS O2	92	94	94	86	-	-	6	1 DOSE	40	4			METHYL PRED	80MG	4									+		ARDS	H	4			Worsened and AMA		