

## “Clinical And Laboratory Profile Of COVID-19 Patients At Tertiary Care Hospital”

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### **Abstract**

*Introduction- Corona virus pandemic had caused great disruption in life of all. This virus being just 4 months old still revealing many faces of infection. And there is anecdotal evidence that there is slight difference in different parts of the world. Hence we decided to study” Clinical and Laboratory profile of COVID-19 patients” admitted at tertiary care hospital in marathwada region.*

*Material and methods- We studied 100 patients of COVID-19 admitted at MGM medical college and hospital Aurangabad. Clinical features including age, sex, presenting complaints were taken from the patient chart and laboratory data was pulled from hospital information system. Results were tabulated and discussed.*

*Results – Age range of COVID-19 patients 17 to 82 years, 69% of Male are infected were as 31% Female were infected, Presenting illness- Fever is most common (94%), followed breathlessness (40%),dry cough in (36%) of patients. Laboratory findings, Raised Total leucocyte count is seen in 16% Neutrophilia in 56%,lymphocytopenia in 52% , Thrombocytopenia is seen in 13%. Biochemical tests- raised CRP in 65%, Raised serum ferritin in 53%, raised LDH 55% patients.*

*Conclusion- Most common presenting complaint was fever followed by breathlessness & dry cough. Male are more affected. Neutrophilia & lymphocytopenia is seen in more than half of patients. Raised levels of CRP, Serum ferritin, Serum LDH is seen. They Can be use as early diagnostic marker for covid-19. The clinical and laboratory profile of COVID 19 in marathwada region is similar to other region.*

**Key Words :** COVID 19, RT PCR,CRP, Serum Ferritin, LDH

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### **I. Introduction**

Coronaviruses are large viruses group belonging to the coronaviridae family<sup>1</sup>, presenting a single stranded RNA genome<sup>2</sup>. The genome is surrounded by a helical capsid and a lipoprotein envelope containing several spicules of glycoprotein that together give the virus crown appearance<sup>3</sup>.On 11 February 2020 WHO announced the name for epidemic disease caused by SARS-CoV-2, coronavirus disease 2019 (COVID-19) and declared, on March 11,2020, a pandemic state<sup>4</sup>.SARS-CoV-2 spread occur by inhalation or ingestion of viral droplets. Thus main source of human infection are contact with any contaminated surface or with respiratory

droplets of infected people<sup>5</sup>. Symptoms of COVID-19 are nonspecific. The Most commonly reported symptoms are fever, dry cough, dyspnoea and fatigue<sup>6</sup>.

Laboratory abnormalities, particularly haematological changes allow checking the status of SARS-CoV-2 infection, since the haematological system and haemostasis suffers significant impacts during the evolution of COVID-19<sup>7</sup>.

### Objective of the Study

To study clinico-laboratory findings in RT-PCR positive COVID-19 patients admitted in MGM medical college & hospital, Aurangabad.

## II. Material & Methods

This is a retrospective descriptive cross sectional study where in 100 Patients with RT-PCR positive result for COVID-19 infection were selected in August 2020.

The clinical data was retrieved from the medical records section. And various laboratory parameters were obtained from the lab software.

CBC was haematological parameter that was analysed on the 5<sup>th</sup> day of admission to hospital. Biochemical parameter that were evaluated were – Total bilirubin, SGOT, SGPT, Serum creatinine, LDH, CRP & Ferritin on day one of admission.

Results were tabulated and discussed.

## III. Results-

### Epidemiology

We analysed 100 COVID-19 patients age range 17 to 82 years (median age-54 years). Males (69%) are more affected than females (31%). 12 patients have comorbidity mainly hypertension followed by diabetes mellitus.

### Symptomatology

85% of the patients were symptomatic at the time of presentation.

Most common symptom we encountered in our study is fever which is seen in 94% of patients followed by breathlessness 40%, dry cough 36% &

Sore throat in 33% of cases. Patient with elderly age group presented at emergency department with breathlessness at rest seen in 165 of cases.

Few cases presented asymptomatic were majority were symptomatic at the time of admission.

Symptoms	No. of patients (In percentage)
Fever	94%
Breathlessness	40%
Dry cough	36%
Sore throat	33%
Breathlessness at rest	16%

### Laboratory Analysis

On analysing the lab investigation, we found leucocytosis which is seen in 22% of cases. Leukocytopenia is noted in 5% of cases, neutrophilia is seen in 52%, Thrombocytopenia is seen 13% of the patients.

**Biochemical parameters**, Raised serum ferritin is seen in 53 patients (53%).

Raised CRP is seen in 65 patients (65%). Raised LDH is seen in 55 patients (55%).

Raised total leukocyte count with secondary bacterial infection & with deranged renal function test, mortality was seen more commonly in critical patients.

Biochemical Parameter	Highest value	Lowest value
Bilirubin (mg %)	1.4	0.3
SGOT U/L	245	17
SGPT U/L	157	8
Creatinine mg/dl	11.2	0.5

#### **IV. Discussion-**

This study was started during 2<sup>nd</sup> outbreak of COVID-19 in the region. Most of the cases were symptomatic presented with fever as seen in study done by Guan et al<sup>8</sup> fever is most common symptoms seen in (87.9%) cases. In contrast to our study Huang et al<sup>9</sup> concluded cough was most common symptoms in 85.7% of cases. In our studied dry cough is seen in 36% of cases.

Second most common symptom in our study is breathlessness, which is same that of study done by Guan et al<sup>8</sup>.

Guan et al<sup>8</sup> in his study concluded 82% had lymphopenia, in contrast to our study were we concluded neutrophil in 52% of cases, 36.2% had thrombocytopenia were in our study it was 13%, lung damage in COVID-19 could also induce the activation of RAS & cause abnormal function of vascular endothelial cells and coagulation system, & platelet activation and aggregation, which might further increase consumption of platelet.

L.Guan et al in his studied concluded that 33.3% had leukopenia<sup>10</sup> in our study neutrophilia is seen in 52%, whereas study done by F.Zhou et al<sup>11</sup> concluded 40% of patients had lymphopenia, Increased CRP, Increased LDH, Increased Ferritin, same was seen in study done by Chen et al<sup>6</sup>.

#### **V. Conclusion**

- Most common presenting complaint was fever followed by breathlessness & dry cough. Male are more affected.
- Neutrophilia & lymphopenia was seen in more than half of patients.
- Raised levels of CRP, Serum ferritin, Serum LDH was seen.
- These Can be use as prognostic marker for covid-19. The clinical and laboratory profile of COVID 19 in marathwada region is similar to other region.

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