



## **D- Dimer – Ferritin – Lactate Dehydrogenase Prothrombin time and activated partial Prothrombin time are the significant indicators of suspected COVID – 19 Patients**

**Shaikh Mahmood**

Department of Physiology, Deccan College of Medical Sciences, Hyderabad  
Telangana State, India

### **Abstract**

Covid 19 is a pandemic disease, spread all over the world. Covid 19 was first detected in Wuhan, China and it was first reported to WHO country office on 31<sup>st</sup> December, 2019. Covid 19 was spread through Corona Virus, this virus was initially infected respiratory tract then to lungs. In the beginning Covid 19 was suspected to spread only with community transformation, later it was assumed that it is a airborne, waterborn and community transformation disease. Recent clinical research reveals that Corona Virus causing Mutations and Point Mutations, still cause is unknown. Covid 19 is unstable in the living body, Once Corona virus is found positive to a person involving in multiple complications in the body such as Cardiovascular Dysfunction, Renal Dysfunction and other complications in the body. Different Hospital shown that when a person was infected with Covid 19 that person was severe for breathing problem and collapsing with unknown cause. The affected person life span was only 48 to 72 hours. The researcher scientists, clinicians are day night trying to take any suitable solution to control and cure Covid 19. Covid 19 patients are found changes in their routine life. There is change in their metabolic functions. There is change in their physics and also in their Biochemical and Molecular parameters. Mostly their Protein synthesis and coagulation profiles are involved in Covid 19. Present study is aimed To investigate the value of D- Dimer, Ferritin, Lactate Dehydrogenase, Prothrombin Time, Activate Partial Prothrombin Time are the significant indicators of suspected COVID19-Patients.

**Keywords:** COVID19-Patients, D- Dimer, Ferritin, Lactate Dehydrogenase, Prothrombin Time, Activate Partial Prothrombin Time.

### **Introduction**

There are different opinions with international levels about Covid 19. In the beginning Covid 19 was spread through community contamination, later it was suspected airborne, waterborne and community contaminations. In the early period covid 19 was suspected only viral disease recently

it is found that it causing Mutations and Point Mutations. Protein genes Mutations and Point Mutations are irregular and unstable. Researchers, Scientists and Clinician are trying for Plasma Therapy and Immune Cells therapy. It is an hypothetical theory might be in near future Gene Therapy will be followed for the affected genes causing Mutations and Point Mutations.

COVID – 19 patients have a favourable prognosis, but some rapidly progress to severe and critical cases with respiratory distress syndrome, coagulation dysfunction, multiple organ failure etc. Therefore early identification of severity is very important to the clinical diagnosis and treatment for COVID – 19. Mostly used clinical laboratory coagulation profiles and other enzymes related to D- Dimer, Ferritin, Lactate Dehydrogenase, Prothrombin Time, Activate Partial Prothrombin Time and fibrinogen could sensitively reflect the clotting state and enzymatic activity of the body.

**Aim**

The aim of this study is to investigate the elevation and significance of D- Dimer – Ferritin – Lactate Dehydrogenase Prothrombin time and

activated partial Prothrombin time are found the indicators of suspected COVID – 19 patients.

**Materials and Methods**

A total number of 300 suspected patients and 200 healthy controls were enrolled for the study and compared their data for the elevation and significance of D- Dimer – Ferritin – Lactate Dehydrogenase Prothrombin time and activated partial Prothrombin time are found and the indicators of suspected COVID – 19 patients.

This study was carried at Biochemistry Laboratory, Owaisi Hospital & Research Centre (a teaching hospital to Deccan College of Medical Sciences, Hyderabad, Telengana state, India) The parameters were done on Cobas C 311, Minni Vidas and Coagulometer.

**Results**

Table: 1 Comparison of D- Dimer, Ferritin, Lactate Dehydrogenase, Prothrombin Time, Activated Partial Prothrombin Time in COVID-19 Patients and Health Controls

Parameters	Covid – 19 Patients	Healthy Controls	p value
Age and either Sex	40.66 +_ 15.96	20.55+_ 10.85	<0.001
D-Dimer (ng/ml)	2565+_ 250.55	150+_ 85.62	<0.001
Ferritin (ng/ml)	1250+_ 150.75	125+_ 25.50	<0.001
LDH (IU/L)	855+_ 210	260+_ 55.40	<0.001
Prothrombin Time(Sec)	22+_ 55	13+_ 1.0	<0.001
A.P.P Time (Sec)	48.+_10	30+_ 4.0	<0.001

SD Mean Value was calculated and found over all p value = <0.001

**Conclusion**

The results shown that there is elevation and significance indicators of D- Dimer, Ferritin, Lactate Dehydrogenase, Prothrombin Time, Activated Partial Prothrombin Time in COVID-19 Patients which were compared to Healthy Controls for their normal limits.

**References**

1. W.j. Guan, Z.Y. Ni, Y. Hu et al., “Clinical Characteristics of corona disease 2019 in

China,” The New England Journal of Medicine, vol.382, no.18,pp.1708- 1720,2020.  
 2. N.Zhu, D. Zhang, W.Wang et al., “ A novel coronavirus from patients with pneumonia in China, 2019.” The New England Journal of Medicine, vol. 382, no. 8,pp.727-733,2020.  
 3. W.Han, B. Quan, Y. Guo et al., “ The course of clinical diagnosis and treatment of a case infected with coronavirus disease 2019,” Journal of Medicine Virology, vol.92, no. 5, pp. 461- 463,2020.

4. N. Tang, D.Li, X. Wang, and Z. Sung, “Abnormal coagulation parameters are associated with poor prognosis in patients with novel coronavirus pneumonia,” *Journal of Thrombosis and Haemostasis*, vol.18, no. 4, pp. 844-847,2020.
5. C. Huang, Y. Wang, X. Li. et al., “Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China,” *The Lancet*, vol. 395, no. 10223, pp. 497-506,2020.
6. D. Wang, B. Hu, C. Hu et al., “Clinical characteristics of 138 hospitalised patients with 2019 novel coronavirus-infected pneumonia in Wuhan, China,” *JAMA*, vol. 323, no.11,p. 1061, 2020.
7. Y. Wan, J. Shan, R. Graham, R.S. Baric, and F. Li, “ Receptor recognition by the novel coronavirus from Wuhan: an analysis based on decade-long structural studies of SARS coronavirus,” *Journal of Virology*, vol.94. no. 7,2020.
8. S.Kowalczyk, A. Broer. N. Tietze,J. M Vanslambrouk, J. E. J. Rasko, and S. Broer, “ A protein complex in the brush-border membrane explains a Hartnup disorder allele,” *The FASEB Journal*, vol.22, no. 8, pp. 2880-2008.
9. B. Gates, “Responding to COVID-19 – a once-in-century pandemic?” *New England Journal of Medicine*, vol.382,no. 18, pp. 1677-1679,2020.
10. T. Zhou, Q. Liu, Z. Yang et al., “Preliminary prediction of the basic reproduction number of Wuhan novel coronavirus 2019-nCoV,” *Journal of Evidence-Based Medicine*, vol. 13, no. 1, pp. 3-7, 2020.

<b>Access this Article in Online</b>	
	Website: <a href="http://www.ijcrims.com">www.ijcrims.com</a>
	Subject: <a href="#">Medical Sciences</a>
<b>Quick Response Code</b>	

**How to cite this article:**

Shaikh Mahmood. (2020). D- Dimer – Ferritin – Lactate Dehydrogenase Prothrombin time and activated partial Prothrombin time are the significant indicators of suspected COVID – 19 Patients. *Int. J. Curr. Res. Med. Sci.* 6(5): 17-19.

DOI: <http://dx.doi.org/10.22192/ijcrms.2020.06.05.004>