



Hematological Characteristics of COVID-19 Patients Admitted to Fayoum University Hospital

Thesis

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By

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Summary

On March 11st, 2020, WHO declared the outbreak of SARS-CoV2 as a global pandemic, reporting community-scale transmissions occurring in every continent outside Antarctica. Infected patients with SARS-CoV2 exhibit a wide spectrum of symptoms and severity; ranging from totally asymptomatic carriers to severe symptoms such as ARDS, septic shock with MOF. ARDS is the most critical clinical manifestation of COVID-19, induced mainly through immune response (i.e., cytokine storm). ACE2 is the main receptor for SARS-CoV2, definitively play an important role in the pathogenesis and severity of COVID-19 by its wide distribution throughout the body organs and its role in modulating the immune system.

Currently, there is no effective antiviral therapy for treating SARS-CoV2 infection, making the prevention of the disease of a great concern.

By, May 2021, five available COVID-19 vaccines have been approved for emergency or full use by at least one WHO-recognized stringent regulatory authority.

Our aim of the work was to collect and analyze the hematological characteristics of patients with COVID-19 admitted at FUH.

We performed a retrospective cohort study of the hematological characteristics in confirmed COVID-19 cases by RT-PCR who admitted to FUH between April and July 2020.

All included patients were subjected to the following (as recorded in FUH electronic files):

- Full medical history.
- Clinical assessment at admission, during hospitalization and discharge.
- Laboratory investigations.
- Clinical outcomes data were obtained.

Baseline demographic data of the studied patients. The main gender was male with 69.3% percentage with mean age 37.4 ± 15.6 (between 4th and 6th decade), about 61.4% of them came from rural areas.

The most presenting symptoms were fever, cough, dyspnea and sore throat with the percentage of 57.9 %, 52.9%, 27.1% & 20% respectively. The duration of hospital stays with range 3-32 days and the mean (13.26). By analysis of the blood groups of our patients, we found that blood group A had the highest incidence (36.43%) with relatively longer duration of hospital stay and on the other hand. Blood group O had the least incidence (13.57%) between our patients and it was associated with relatively short duration of hospital stay.

Our results revealed that CRP, ferritin, D-dimer, lymphocytes, and LDH have perfect accuracy in predicting severity and outcomes of cases with positive RT-PCR for COVID-19. There was also a significant negative correlation between lymph and all of them.