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## Analysis of Some Blood Coagulation Parameters in COVID-19 Patients First of Admission at Hospital in Birjand, Iran

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**Background and Aim:** As the COVID-19 pandemic continues to spread, it is crucial to determine the prognostic factors contributing to the development of severe disease and higher mortality. We evaluated the correlation between coagulation function and disease progression and status in COVID-19 patients first of admission at the hospital.

**Methods:** Electronic medical records, including patient demographics, comorbidities, and laboratory test results from 963 patients (50-70 years old) admitted to hospital in Birjand between 2020-02-21 and 2021-02-14 with confirmed COVID-19 with emphasis on Prothrombin Time (PT), Partial Thromboplastin Time (PTT), International Normalized Ratio (INR), and platelet (PLT) count between survivors (825 patients) and non-survivors (138 patients) on admission, were collected and analyzed. Some coagulation parameters such as D-dimers were not assessed due to a lack of samples.

**Results:** It revealed that PT (Mean=15.8, SEM=0.79,  $P < 0.001$ ), PTT (Mean=42.93, SEM=2.37,  $P < 0.001$ ), and INR (Mean=1.41, SEM=0.10,  $P < 0.001$ ) were significantly higher in dead patients and also increased slightly over their normal range compared to the survivors, more of the patients in the dead group were male (57.97% vs. 49.82%). Thrombocytopenia (platelet count  $< 150 \times 10^3/\mu\text{L}$ ) was detected in 25.86% of COVID-19 patients, with no significant differences across groups ( $P=0.88$ ).

**Conclusion:** The study found that PTT, PT, and INR of patients in the non-surviving group were elevated compared to those in the surviving group, suggesting that coagulopathy may be associated with prognosis, and may guide clinical treatment. Thus, we recommend emphasis to be given for monitoring of these parameters in hospitalized COVID-19 patients.

**Keywords:** COVID-19, SARS-CoV-2, Coagulation laboratory parameters, INR, PT, PTT