

Coagulation Dysfunctions: A Hallmarks for Thrombo-Inflammatory Risks in SARS-CoV-2 Hospitalized Patients

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SUMMARY. The relevance of coagulation malfunction in COVID-19 (severe coronavirus disease) is ambiguous. Current study aimed to assess the coagulation among SARS-CoV-2 hospitalized patients. A cross sectional study with qualitative approach was conducted among 300 patients who are already diagnosed as COVID 19 compared to 300 apparently healthy control group attended to Red Sea State during study period from April 2020 to April 2021. The Humaclot Due Plus1 coagulation analyser was used to estimate the prothrombin time (PT), activated partial prothrombin time (APTT), and international normalized ratio (INR) (Wiesbaden 1, Germany), adding 25 µL of plasma in cuvette. The study result showed that in COVID-19 patients D.dimer level is high (2000-10000 ng/mL) compared with control group (up to 500 ng/mL). COVID-19 infection cause high D. dimer level which can lead to thrombosis event or bleeding tendency. Abnormal coagulation results were revealed among SARS-CoV-2, with markedly elevated D. dimer.

RESUMEN. La relevancia del mal funcionamiento de la coagulación en COVID-19 (enfermedad grave por coronavirus) es ambigua. El estudio actual tuvo como objetivo evaluar la coagulación entre pacientes hospitalizados por SARS-CoV-2. Se realizó un estudio transversal con abordaje cualitativo entre 300 pacientes que ya están diagnosticados como COVID 19 en comparación con 300 del grupo de control aparentemente sano atendido en el estado del Mar Rojo durante el período de estudio de abril de 2020 a abril de 2021. Se estimó el tiempo de protrombina (TP), el tiempo de protrombina parcial activada (APTT) y el índice internacional normalizado (INR) (Wiesbaden 1, Alemania), agregando 25 µL de plasma en cubeta. El resultado del estudio mostró que en pacientes con COVID-19, el nivel de dímero D es alto (2000-10000 ng/mL) en comparación con el grupo de control (hasta 500 ng/mL). La infección por COVID-19 causa un nivel alto de dímero D que puede provocar un evento de trombosis o tendencia a hemorragias. Se revelaron resultados anormales de coagulación entre el SARS-CoV-2, con dímero D notablemente elevado.

KEY WORDS: coagulation parameter, D-dimer, disseminated intravascular coagulation, SARS-CoV-2.

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