

RELATIONSHIP BETWEEN SEVERITY AND CLINICAL OUTCOME OF DISEASE DUE TO SARS-COV2 INFECTION AND CIRCULATING MARKERS OF NETOTIC OR PYROPTOTIC CELL DEATH.

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Objectives: Various cell death types in leukocytes are among the underlying causes of COVID-19 pathology caused by SARS-CoV2 infection. We aimed to determine the relationship between the disease severity and prognostic importance of netotic and pyroptotic neutrophil death in the pathophysiology of COVID-19.

Methods: The serum samples were collected from a total of 150 patients (with mild, moderate, and severe courses) defined according to the diagnosis and treatment guidelines of COVID-19 and 89 healthy individuals. neutrophil elastase (NE), citrulline histone-H3 (CitH-H3), myeloperoxidase (MPO), cell free-circulating-DNA (cfDNA), gasderminD (GSDMD) IL18 and IL8 levels were analyzed by the ELISA method. The effects of circulating netosis (NET) and pyroptosis markers on disease severity and clinical parameters were evaluated comparatively and also investigated whether they were associated with comorbidity, inflammation thrombosis, and fibrinolysis.

Results: NE, GSDMD, and CitH-H3 were found to be significantly higher levels in the COVID-19 patient group compared to the healthy group. In addition to these markers together with elevated ferritin, D-dimer, CRP, neutrophil, and decreased WBC serum levels were strongly associated with the severity of the diseases.

Conclusion: The results of our study showed that circulating markers of netosis and pyroptosis in COVID-19 patients due to SARS-CoV2 infection correlate with markers of inflammation, irregular hemostasis, fibrinolysis, and play a role in prognosis as an indicator of disease severity, and can be considered as potential targets in the treatment of COVID-19 patients.

Key words: SARS-CoV2, netosis, pyroptosis