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Predictable severity biomarkers in Covid-19

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Abstract

Introduction: The recorded studies suggest that there is clear evidence-based association between various laboratory biomarkers and COVID-19 disease severity. These marker levels reflect the intensity of the cytokine-mediated hyperinflammatory response, which is strongly associated with a poor outcome of SARS-CoV-2 infection.

Conclusions: C-reactive protein is not only a systemic inflammatory marker, but also an important regulator of inflammatory processes. The level of this protein is positively correlated and can be widely used to predict the severity, prognosis and mortality in COVID-19 patients, additionally to vital signs monitoring, supportive care, oxygen therapy, ventilation and circulatory support. Procalcitonin is an indicator of disease severity, which can facilitate timely clinical decision-making, and determination of procalcitonin levels during COVID-19 patients' follow-up, as well as being used in assessing risk, predicting prognosis, and improving patient survival. The assessment of hematological laboratory parameters upon admission, which help in differentiating between severe and non-severe cases, high-risk and low-risk cases of mortality, allows raising awareness, monitoring and timely treatment of patients with COVID-19, as well as their early improvement of clinical condition. Inflammatory biochemical and hemocytometric measures are feasible, easily interpretable, and widely available biomarkers in most healthcare settings, favorable for being used in treatment and severity determination, in predicting clinical outcomes, and in the prognosis of patients with COVID-19. However, the assessment of the accuracy of these biomarkers needs to be determined in further more relevant worldwide studies, showing a more precise design, more accurate performance, and having larger sample sizes.

Key words: COVID-19, SARS-CoV-2, C-reactive protein, procalcitonin, biomarkers, severity prediction.

Cite this article

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