C-REACTIVE PROTEIN AND OTHER BIOMARKERS FOR DIAGNOSIS AND PROGNOSIS IN COVID-19

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The COVID-19 pandemic has highlighted the need for reliable diagnostic and prognostic indicators to aid in disease management. C-reactive protein (CRP) has emerged as a viable biomarker for assessing disease severity and forecasting outcomes in COVID-19 patients [1]. However, it is critical to recognize the importance of other indicators in gaining a complete understanding of the condition. CRP levels have regularly been found to be elevated in severe COVID-19 cases [2]. Measuring CRP levels at the time of admission can help distinguish between mild and severe cases, allowing for the early identification of those at risk of developing severe illness. Furthermore, higher CRP levels have been associated with higher mortality rates, emphasizing their prognostic importance. A cut-off point of 40 mg/L has been determined to be the best for identifying those at increased risk. This early signal can help guide treatment decisions and advance care planning. While CRP is an important biomarker, other measures must be included to provide a more complete assessment of COVID-19 patients. Biomarkers such as D-dimer, lactate dehydrogenase (LDH), procalcitonin, interleukin-6 (IL-6), and ferritin provide further information on disease development and patient outcomes. D-dimer levels have been linked to an increased risk of thrombotic events, which are a typical consequence of severe COVID-19 cases. Screening D-dimer levels can help identify those who need thromboprophylaxis and aggressive thrombotic treatment [3, 4]. Another biomarker is LDH, which is an enzyme involved in cellular metabolism, and is found in high concentrations in COVID-19 patients with tissue damage and inflammation. LDH level monitoring can provide significant information about tissue damage and help guide therapy decisions [5]. Procalcitonin levels can distinguish between bacterial co-infections and viral inflammation. Elevated levels may signal the need for further testing and antibiotic medication [1]. In severe cases of COVID-19, IL-6, a pro-inflammatory cytokine, is increased and linked to cytokine release syndrome. Checking IL-6 levels can assist in identifying individuals who may benefit from immunomodulatory therapies [1, 6]. Ferritin, an iron-storing protein, is a marker of systemic inflammation. Ferritin levels have been found to be elevated in severe cases of COVID-19, which is associated with an excessive immunological response [7]. Ferritin levels can help determine illness severity and guide treatment methods. The incorporation of several indicators into patient care techniques provides for a more complete approach to caring for COVID-19 patients. Combining

CRP with other biomarkers improves diagnostic accuracy, risk classification, and tailored therapy planning. In evaluating biomarker levels and making educated judgments, clinical examination and consideration of many circumstances remain critical. CRP is a helpful diagnostic and prognostic indication in COVID-19, offering insight into disease severity and mortality risk [8]. Other biomarkers, such as D-dimer, LDH, procalcitonin, IL-6, and ferritin, can improve diagnosis accuracy, guide therapy options, and predict patient outcomes. In addition to clinical evaluation, a multi-biomarker approach is needed to fully understand COVID-19 [9]. Ongoing research and investigations are important to improve the significance of these biomarkers and figure out their best clinical value in the context of COVID-19

Article information and declarations

Author contributions

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Conflicts of interest

The authors declare no conflict of interest.

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