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Role of Biomarkers in COVID Complications

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ABSTRACT

As of 28th April 2020, the COVID-19 pandemic has infiltrated over 200 countries and affected over three million people. We review different biomarkers to evaluate if they are able to predict clinical outcomes and correlate with the severity of COVID-19 disease. Timely diagnosis and hospitalization, risk stratification, effective utilization of intensive care services, selection of appropriate therapies, monitoring and timely discharge are essential to save maximum numbers of lives.

Methods: A systematic review of the literature was carried out to identify relevant articles using six different databases. Keywords to refine the search included 'COVID-19', 'SARS-CoV2', 'Biomarkers', among others. Only studies which reported data on pre-defined outcomes were included.

Key findings: Thirty-four relevant articles were identified which reviewed the following biomarkers: C-reactive protein, serum amyloid A, interleukin-6, lactate dehydrogenase, neutrophil-to-lymphocytes ratio, D-dimer, cardiac troponin, renal biomarkers, lymphocytes, and platelet count. Of these, all but two, showed significantly higher levels in patients with severe complications of COVID-19 infection compared to their non-severe counterparts.

Significance: Although research is still in its early stages, the discovery of how different biomarkers behave during the course of the disease could help clinicians in identifying severe disease earlier and subsequently improve prognosis.

Keywords: SARS-CoV-2, COVID-19, Biomarkers, Blood tests

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