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Commentary

See the original article by Hajian et al (J Parathyr Dis. 2022;10: e10156)

COVID-19 and red cell distribution width

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Implication for health policy/practice/research/medical education

Red cell distribution width is an easy method to assess of erythrocyte size alteration, which can be conducted for the diagnosis of various hematological disorders like anemia related to iron deficiency and bone marrow disease. This marker could be a prognostic predictor of severe cases of COVID-19 too.

Keywords: COVID-19, Red cell distribution width (RDW), Prognosis, Mortality

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We read with great interest the article by Hajian et al, on the association of platelets function and structure with COVID-19 severity. Their study conducted on 59 cases with main mean age of patients was 62.07 years. About 64.4% of the individuals were significantly sick. They demonstrated that red cell distribution width could be useful to discriminate the significantly sick cases with COVID-19 from severe one (1). Regarding this study, we intended to explain some points. Red cell distribution width is an easy method to assess of erythrocyte size alteration, which can be conducted for the diagnosis of various hematological disorders like anemia related to iron deficiency and bone marrow disease (2). The correlation of red cell distribution width and death has been detected in various conditions, comprising sepsis or infection. Several investigations have directed toward the relationship of raised red cell distribution width with adverse prognosis in COVID-19 too, however, its utility has not been yet well-recognized (3). A recent retrospective study by Ramachandran et al, on 294 COVID-19 individuals, showed the frequency of increased red cell distribution width was 49.7%. This study showed red cell distribution width was accompanied by elevated risk of in-hospital septic shock and death following amending for serum lactate, ferritin, quantity of anemia, and also absolute lymphocyte amount. They concluded that raised red cell distribution width in admitted COVID-19 cases is linked to elevated risk of death (4). Previously to detect the prognostic significance of blood factors in the prospects of cases with intense COVID-19, Wang et al examined 98 COVID-19 individuals with the mean age of 59 years. They showed, red cell volume distribution width was meaningfully elevated in the poor outcome patients versus good outcome group. Interestingly, this study showed RDW, was the main noteworthy single marker for assessing the prognosis of severe COVID-19. They finally concluded that, red cell distribution width was noticed to be a prognostic predictor of severe cases of COVID-19 (5). More recently, the cross-sectional investigation by Jandaghian et al, on 4152 COVID-19 individuals with the mean age of 61.1 ± 16.97 years, showed the mortality rate of cases with normal and raised red cell distribution width was 7.8% and 21.2%, respectively. They also showed, the mortality following elevated red cell distribution width who were not admitted to intensive care unit (ICU) was higher than ICU-admitted individuals. Hence, along with other factors which conducted to assess severity or mortality of COVID-19 patients, raised red cell distribution width could be associated with mortality in COVID-19; however, utilization of this factor for COVID-19 still requires further investigation by larger studies.

Authors' contribution

Conceptualization, validation, investigation, resources, data curation, writing—original draft preparation, writing—review and editing, visualization, project administration, and funding acquisition: AB and NE; Supervision: AB.

Conflicts of interest

The authors have no conflicts of interest.

Ethical issues

Ethical issues (including plagiarism, data fabrication, double publication) have been completely observed by the authors.

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