عنوان مقاله:

The Association of Red Blood Cell Distribution Width with Secondary Infection and Prognosis in hospitalized patients with COVID -۱۹ pneumonia

محل انتشار:

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خلاصه مقاله:

Introduction: Novel Coronavirus outbreak has posed a global threat. While the infection appears to be mild in most patients, considering its high rate of transmission, a large number of people are at risk of developing severe to critical illness in total which makes prognosis studies a priority.The aim of the present study was to evaluate red blood cell distribution width (RDW) as a predictive factor for diagnosing severe cases of coronavirus disease ۲۰۱۹

(COVID-۱۹).Materials and Methods: A total number of ۲۰۴ inpatients diagnosed with COVID-۱۹ including ۱۲۲ men and ۸۲ women (Mean age: ۵۸.۸۳±۱۵.۹۳ years old) treated at Imam Reza Hospital, Mashhad, Iran were included in the study. Patients were divided into severe and moderate groups according to their clinical signs and examinations and pulmonary imaging features. Demographic Data, laboratory test results, treatments, patients' complications and outcome were recorded. Mann-Whitney U test and spearman correlation coefficient (r) were performed to assess RDW correlation with severity and serious complications in patients including intensive care unit (ICU) admission, shock, secondary infections, intubation, length of hospitalization and death. Receiver operating characteristics (ROC) curves analysis was carried out to define the reliability of RDW as a predictive indicator in severe COVID-۱۹.Results: The results showed statistical significant correlations between high levels of RDW and developing secondary infections and longer hospitalization (P values ≤۰.۰۰۱). The optimal cutoff for RDW to predict the length of hospitalization (≤ ۷ days or more than ۷ days) was estimated to be ۱۴.۶۵% with ۹۴% sensitivity and ۷۱.۳% specificity. The area under curve was calculated to be ۰.۸۹۵ through Roc curve analysis.Conclusion: High predictive value of RDW, a routine blood test parameter, could be used in diagnosing COVID-۱۹ patients at higher risk for developing .secondary infections and longer hospital stay which in turn helps with better management of the disease

کلمات کلیدی:

Coronavirus Disease-۱۹, Prognosis, Secondary Infection, Red Blood Cell Distribution Width