Performance of risk scoring systems used in severe COVID-19 patients in the emergency department

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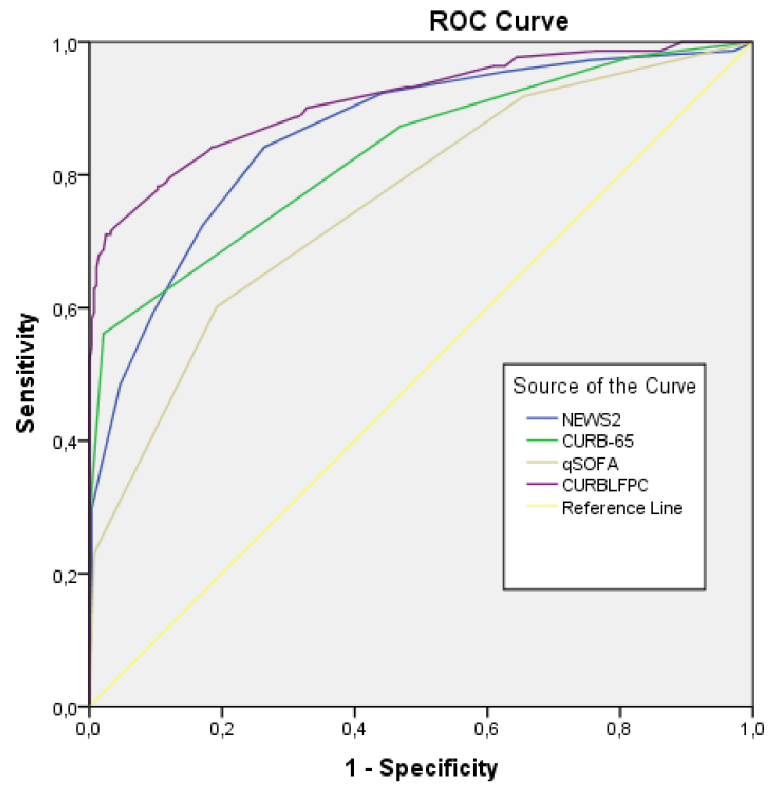
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Abstract

The aim of this study is to evaluate the performance of CURB-65, qSOFA, and NEWS2 scores in predicting mortality in COVID-19 patients and to investigate potential components of a COVID-19-specific prognostic score. A total of 502 patients diagnosed with severe COVID-19 in the emergency department of a pandemic hospital between 01.04.2020 and 01.02.2021 and hospitalized in the intensive care unit were analyzed retrospectively. Demographic, clinical and laboratory data of the patients were obtained from the hospital registry system. The CURB-65, qSOFA and NEWS2 scores of each patient were calculated separately. These patients were divided into two groups as those who survived and those who died. All parameters and calculated risk scores were statistically compared between these two groups. When the CURB-65, NEWS2, qSOFA scores were compared between the two patient groups, a significant difference was found (P<0.001). Compared with CURB-65 and qSOFA, sensitivity of 92.3% and NPV of 90.2% were detected when NEWS2[?]8. The CURBLFPC score reached the highest mortality predictive power among other scores with an AUC value of 0.91. Because the NEWS2 score is superior to CURB-65 and qSOFA for predicting mortality, it can be used in the triage of severe COVID-19 patients, predicting prognosis and improving outcomes.In more comprehensive and prospective studies, new models such as CURBFPC can be created and a specific prognostic score for COVID-19 can be developed.

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Figure 1. Roc analysis of scores in predicting mortality

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