

Prognosticating critical illness and an early warning score: ANDC

Kritik hastalıkların öngörüsü ve erken uyarı skoru: ANDC

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Dear editor,

We have read the article titled “Mild/moderate and severe COVID-19 pneumonia: Can the clinical course be predicted?” prepared by Hamidi et al. with great interest (1). We thank the authors and the editorial board for publishing this informative and successful manuscript. We also would like to mention a few important points about predictors used in COVID-19.

Since the COVID-19 pandemic was declared in March 2020, more than 350 million people have been infected with SARS-CoV-2, and more than five and a half million people have died from COVID-19. During the peak periods of the pandemic, health resources were insufficient all over the world. To use scarce resources effectively and to prioritize patients, researchers studied parameters that would predict death and severe illness (1-6). The authors suggested that early warning scores could be used in early emergency departments and pandemic clinics. Rapid acute physiology score and rapid emergency medicine score are two of the most studied early warning scores (2). Some researchers studied on scoring systems such as PSI, CURB-65 and CURB, which were used in pneumonia before (3). On the other hand, laboratory parameters, especially those that are inexpensive and easily accessible, were studied more (1,4). Moreover, the ratios of these parameters such as neutrophil-to-lymphocyte ratio, C-reactive protein-to-albumin ratio were studied to find the ideal predictor (5).

Weng et al, like Hamidi et al, studied laboratory parameters in the early period of the pandemic. In their study in Wuhan, similar to Hamidi et al., they found neutrophil-to-lymphocyte ratio, D-dimer and C-reactive protein as independent predictors of laboratory parameters (6). By adding age to these laboratory parameters, they developed a scoring system named ADNC. When developing ADNC, they multiplied each variable with coefficients according to their importance. They calculated ANDC by using

the following formula: Total points = $1.14 \times (\text{age} - 20)$ (years) + $1.63 \times$ neutrophil-to-lymphocyte ratio + $5.00 \times$ D – dimer (mg/L) + $0.14 \times$ C-reactive protein (mg/L). They recommended ADNC as the ideal predictor with good calibration and discrimination (the area under the curve of 0.975 and 0.921 for the validation and derivation) (6).

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