Evaluation of predictive power of systemic inflammation indices at the beginning of hospitalization on the outcome of patients with COVID 19

Abstract

Background: In December 2019, an unknown viral agent began to spread in Wuhan, China, which is known to cause severe acute respiratory syndrome, and it did not take long for it to spread widely throughout the world. This virus was announced by WHO as the cause of the disease of Kovid-19.

Aim: Early estimation of the outcome of patients with covid-19 is very important in their optimal management. The present study was conducted with the aim of Evaluation of predictive power of systemic inflammation indices at the beginning of hospitalization on the outcome of patients with COVID 19.

Materials and Methods: In this cross-sectional and analytical study, 699 patients with covid-19 admitted to Imam Khomeini Hospital in Ardabil between April 2021 and May 2021 were evaluated. The required information including demographic characteristics, previous disease history, hospital outcome and necessary laboratory findings were collected by examining the patient files in the hospital archive. The relevant information was evaluated by inserting it into SPSS software version 17 based on the objectives of the study and the ROC curve.

Results: The average age of the patients was 57.6 years and 51.5% were women. The mortality rate was 16.2%. All 4 parameters NLR, MLR, PLR and SIRI significantly predicted the outcome of patients (AUC 0.704, 0.718, 0.719 and 0.713 respectively, all with $P<0.001$).

Conclusion: The simultaneous use of all available parameters such as NLR, PLR, MLR and also SIRI as a relatively new index can estimate the outcome of covid-19 patients well and in better management of covid-19 patients and make accurate decisions about prognostic evaluation in admission.

Keywords: Hematological factors, Lymphocyte to neutrophil, Covid-19, Outcome