


Diagnostic Value of the C-Reactive Protein to Albumin Ratio in Patients With Stable Angina Pectoris: Methodological Issue

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We read with interest the article by Tanriverdi et al entitled “Comparing the Diagnostic Value of the C-Reactive Protein to Albumin Ratio With Other Inflammatory Markers in Patients With Stable Angina Pectoris” that recently published in April 2020 issue of the *Angiology*.¹ The purpose of this study was to compare the diagnostic value and predictive value of C-reactive protein to albumin ratio (CAR) with other inflammatory parameters in detecting significant coronary artery disease (CAD).¹ Clinical and laboratory parameters of 421 patients were compared based on the presence or absence of significant CAD. Diagnostic value and predictive value were assessed by receiver operating characteristic (ROC) curve. The authors reported patients with significant CAD had a significantly higher neutrophil to lymphocyte ratio ($P = .043$), monocyte to lymphocyte ratio ($P = .004$), uric acid ($P < .001$), monocyte to high-density cholesterol ($P = .004$), and CAR ($P < .001$) compared with patients without significant CAD. Finally, the area under the curve (AUC) of CAR was the highest AUC among all inflammatory parameters for predicting significant CAD.¹


Despite these interesting results, there are some methodological issues that we will mention below: For evaluation of diagnostic value, the accuracy (validity) and precision (reliability) must be considered together and evaluation of each of them cannot explain the value of a diagnostic test. In summary, for calculating test accuracy and reliability, the values such as sensitivity, specificity, predictive values, likelihood ratios, and ROC and intraclass correlation coefficient, Bland-Altman Plot for quantitative, and weighted kappa for qualitative variables should be reported in the results, respectively.²⁻⁴ Another problem in this study, in order to predict an outcome, besides the need to study the cohort (with ability divided into 2 groups), we also need to examine interaction between important predictors (especially qualitative variables) and validation of prediction model by methods such as split file, bootstrapping, or other well-known validation

methods.^{2,4-6} In this study, the ROC curve used to assess the predictive value. The AUC is usually used to evaluate the accuracy of a diagnostic model and statistical significance of AUC do not guarantee prediction.^{2,4-6}

The authors concluded that CAR was the strongest diagnostic value in detecting significant CAD among the inflammatory parameters evaluated.¹ In this letter, we discussed how to properly evaluate the diagnostic value of a test and how to predict an outcome. Any conclusions on these fields should be supported by the abovementioned methodology issues. Otherwise, misinterpretation cannot be avoided.

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