

Diagnostic accuracy of platelet/lymphocyte ratio for screening complex coronary lesion in different age group of patients with acute coronary syndrome

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Abstrak

ABSTRACT

Background: with the increasing number of patients with acute coronary syndrome (ACS) with complex coronary lesion and the increasing needs of coronary artery bypass grafting (CABG) procedures, there is an increasing need for a tool to perform early stratification in high-risk patients, which can be used in daily clinical practice, even at first-line health care facilities setting in Indonesia. It is expected that early stratification of highrisk patients can reduce morbidity and mortality rate in patients with ACS. This study aimed to identify diagnostic accuracy of platelet/lymphocyte ratio (PLR) and the optimum cut-off point of PLR as a screening tool for identifying a complex coronary lesion in patients ≤45 and >45 years old.

Methods: this was a retrospective cross-sectional study, conducted at the ICCU of Cipto Mangunkusumo Hospital. Data was obtained from medical records of adult patients with ACS who underwent coronary angiography between January 2012 - July 2015. The inclusion criteria were adult ACS patients (aged ≥18 years old), diagnosed with ACS and underwent coronary angiography during hospitalization. Diagnostic accuracy was determined by calculating sensitivity, specificity, positive likelihood ratio (LR+), and negative likelihood ratio (LR-). The cut-off point was determined using ROC curve.

Results: the proportion of ACS patients with complex coronary lesion in our study was 47.2%. The optimum cut-off point in patients aged ≤45 years was 111.06 with sensitivity, specificity, LR+ and LR of 91.3%, 91.9%, 11.27 and 0.09, respectively. The optimum cut-off points in patients aged >45 years was 104.78 with sensitivity, specificity, LR+ and LR of 91.7%, 58.6%, 2.21 and 0.14, respectively.

Conclusion: the optimum cut-off point for PLR in patients aged ≤ 45 years is 111.06 and for patients with age >45 years is 104.78 with diagnostic accuracy, represented by AUC of 93.9% ($p<0.001$) and 77.3% ($p<0.001$), respectively for both age groups.