Predictive values of neutrophil to lymphocyte and platelet to lymphocyte ratios in outcomes of patients with stroke

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Introduction: The systematic and local inflammation plays a key role of physiopathology of stroke. The aim of our study is to examine the prognostic utility in short term of neutrophil to lymphocyte ratio (NLR) and platelet to lymphocyte ratio (PLR) measured in the admission of the patients with stroke. Methods: 70 patients admitted in the service of neurology from March to December 2017. Neutrophil, lymphocyte and platelet counts were obtained using Coulter ADVIA 2120i. NLR and PLR were then calculated and a questionnaire was completed. Patients were contacted 6 months later for research of possible recurrence. At first, a descriptive analysis was realized. Secondly, a Kaplan Meier survival curves and a *Cox* regression analysis are established as well as the determination of the value of threshold for predicting recurrence by *ROC*. Results: There is a statistically significant difference of the mean age between men and women (p=0,035). The Kaplan Meier survival curves are significantly different between categories low NLR and high NLR (p=0,004) also for PLR (p=0,0001). The *Cox* model reveals that the NLR (HR=3, 38) and PLR (HR=6) are the only predictive markers of a recurrence. The cutoff NLR =4,6 and the cutoff PLR=170. Conclusion: NLR and PLR are biomarkers little expensive and easily available. They allow the stratification and the optimal monitoring of the patients risk to make a recurrence.