Neutrophil to lymphocyte ratio is related to ischemic event and short-term mortality in patients with acute coronary syndrome

Noujoum Zmouli[1,2*], Arslan Bettayeb[1,2], Wissam Tidjane[1,2], Nadjet Tighezza[1,2], Nadia Benatta[1,2], Houari Toumi[1,2] and **Mohamed Hammadi[1,2]**

[1]University of Medicine in Oran, North Africa

[2]University hospital of Oran, North Africa

Background: The inflammation can play a role in the myocardial ischemia and the number of leukocytes allows estimating the inflammatory status to the coronary. The aim of this study was to examine the prognostic utility in the short term of the neutrophil to lymphocyte ratio (NLR) measured in the admission of the patients with acute coronary syndrome (ACS).

Materiel & Methods: A total of 60 coronary patients admitted in the service of cardiology and in the USIC from Mars 2016 to December 2016 in the EHUO. The neutrophil and lymphocyte counts were obtained using a Coulter ADVIA® 2120i Hematology System with Autoslide* (Siemens Healthcare Headquarters, Erlangen, Germany). NLR is then calculated and a questionnaire is completed. Patients are contacted again 6 months later for research of a possible recurrence or mortality. First, a descriptive analysis is realized on the whole sample. Secondly, a Kaplan-Meier survival curve and a Cox regression analysis are established as well as the determination of the value threshold for predicting recurrence by receiver operating curve (ROC).

Results: The mean age 60.09±23.67 and NLR 4.52±7 sex ratio M/F=3.6. Among ACS: 73.3% ST segment elevation myocardial infarction (STEMI), 23.3% non STEMI (NSTEMI) et 3.3% Unstable angor (UA). The recurrence concerned 23% of the patients with 5% of mortality. There is a statistically significant difference of the mean age between men and women (P=0,035). There is no statistically significant difference of the other cardiovascular risk factors between the groups low NLR and high NLR as well as the groups with and without recurrence (P>0,05). The Kaplan-Meier survival curves are significantly different between both categories low NLR and high NLR (P=0,004). The Cox Model reveals that the NLR is the only predictive marker of a possible recurrence (HR=10.92). The cutoff of the NLR=3.63 has 85.71% sensibility and 65.22% specificity.

Conclusion: The NLR is a biomarker little expensive, easily available and obtained quickly by the realization of the simple NFS. It allows stratifying the patients at risk of making a recurrence or a death of cardiovascular origin.

Biography

Noujoum Zmouli is an Assistant Professor in Biological Hematology and Blood Transfusion in University of Medicine and Hospital Practitioner in University Hospital in Oran, Algeria. He has published several articles in French and in English. Currently, he is preparing a Doctoral thesis in Medical Sciences for which the title is: biological evaluation of the platelet reactivity in thienopyridines by the measure of the intra-platelet VASP (vasodilator stimulated phosphoprotein) in patients with ACS.

noudjoum@yahoo.fr

Notes: