Neutrophil lymphocyte ratio should be assessed together with other inflammatory markers and confounding factors

To the Editor,

We read the article by Gökhan et al.1 entitled “Neutrophil lymphocyte ratios in stroke subtypes and transient ischemic attack” with great interest, which was published in the previous issue of European Review for Medical and Pharmacological Sciences.

The authors aimed to test the validity of Neutrophil Lymphocyte Ratio (NLR), as a prognostically important and an easy-to-measure inflammatory marker, in patients presenting to Emergency Service with stroke and transient ischemic attack. They concluded that NLR can be used as a simple and easy-to-measure marker for prediction of short-term prognosis and in-hospital mortality in stroke patients. It is a well-designed and valuable study, but we have some concerns about the article.

Elevated levels of systemic inflammatory markers have been found associated with higher prevalence of cardiovascular diseases2,3. It is shown that hypertension, diabetes mellitus, hyperlipidemia, obesity and smoking are associated with chronic low grade inflammation4.

Systemic inflammatory state can be measured by using a wide spectrum of biochemical and haematological markers2,4. Higher leukocyte and neutrophil counts are associated with the prognosis of cardiovascular diseases5. In addition to other risk factors, smoking, the commonest cause of leukocytosis, and obesity, the second most common cause of leukocytosis, are significant independent predictors of a higher blood leukocyte count6,7.

Although measured easily, NLR is more complicated due to being a combined factor of inflammation and immune reaction2. NLR and other inflammatory markers are prognostic indicators of stroke as well as other cardiovascular diseases, and the significance is quite stronger especially when used in combination2. If the association between NLR and inflammatory markers (C reactive protein, interleukin-6, tumour necrosis factor-alpha) and cardiovascular risk factors such as obesity and smoking in addition to hypertension, diabetes mellitus, hyperlipidemia were determined, the study and the results could have been more evident and valuable in predicting prognosis and mortality in stroke.

Conflict of interest

The Authors declare that they have no conflict of interests.

References

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