Inflammation with Neutrophil-to-lymphocyte Ratio and Platelet-to-lymphocyte Ratio in Restless Legs Syndrome

Huzursuz Bacaklar Sendromunda Nötrofil Lenfosit Oranı ve Trombosit Lenfosit Oranı Oranı ile Enflamasyon

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Dear Editor,

We read the publication on "Evaluation of Inflammation with neutrophil-to-lymphocyte ratio (NLR) and platelet-to-lymphocyte ratio (PLR) in restless legs syndrome (RLS)" with a great interest (1). Tak and Şengül (1) noted that *"It can be assumed that hematologic parameters such as neutrophils, lymphocytes, and platelets are easily affected by various conditions, or may be due to the small number of patients. Identifying new bio-indicators that will probably show systematic inflammation and neuro inflammation will clarify this issue in the future".* We would like to share ideas on this report. First, we should discuss the usefulness and diagnostic properties of NLR and PLR for inflammation. For NLR, it is mentioned as a useful inflammation biomarker for chronic conditions (2). For PLR, it is usually used in malignancy where the inflammation is significantly overt (3). The interesting query is whether NLR and PLR are not useful for the monitoring of possible inflammation in RLS. The limitation of both NLR and PLR is mainly due to the basic interference for neutrophils, lymphocytes, and platelets in hematology tests, which are usually performed using hematology analyzer at present. Good hematology laboratory quality control is necessary to guarantee the good diagnostic property of NLR and PLR. In addition, although inflammation might be observed in RLS, not all cases of RLS have inflammation (4). In cases of non-inflammatory RLS, any biomarker including C-reactive protein and sedimentation rate, will also be useless.

References

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Reply from the Authors

Dear Editor,

Restless legs syndrome (RLS) is a chronic, progressive sensorimotor neurologic condition (1). In some recent studies, RLS has been associated with inflammatory diseases such as rheumatoid arthritis, systemic lupus, Crohn's disease, and celiac disease (2,3), and the possible role of inflammation in the etiology is discussed. Hypoxia-inducible factor-1 alpha (HIF-1a) acts as a regulator in inflammation (4). In a study by Patton et al. (5), high HIF-1a values were shown in the substantia nigra neurons of patients with RLS, indicating the role of inflammation at the cellular level in RLS. The neutrophil-to- lymphocyte ratio (NLR) and platelet-to-lymphocyte ratio (PLR) are low cost and easily applicable methods that have recently been studied as markers of inflammation in various studies. The NLR has been evaluated in a number of central and systemic neurologic diseases such as ischemic and hemorrhagic cerebrovascular diseases, myasthenia gravis, and multiple sclerosis, and its association with prognosis has been shown (2,3). The NLR was found to be significantly higher in the RLS group and the effect of inflammation in the etiology was discussed in a single study evaluating inflammation with NLR in the literature (3). In this study, we aimed to evaluate the possible inflammation with NLR and PLR in RLS, which is considered as a chronic neurologic condition, and the role of inflammation in the etiology of these diseases, and to discuss whether they may be biomarkers in terms of inflammation in neurologic diseases.

References

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