

EDITORIAL

The Significance of the Neutrophil/Lymphocyte Ratio as a Simple Indicator of Inflammation in Age-related Macular Degeneration

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We would like to thank Dr. Ozgonul and Dr. Sertoglu for their interest in our article "Assessment of neutrophil/lymphocyte ratio in patients with age-related macular degeneration."¹ Please find below the responses to their comments.

Regarding their first comment, the majority of the patients included in the current study were yet to commence treatment. The remaining patients were only on ranibizumab, an anti-vascular endothelial growth factor (VEGF) treatment. Unlike bevacizumab and aflibercept, the systemic exposure of ranibizumab is quite low after intravitreal administration.² The concentration of ranibizumab in the vitreous was determined at almost 90,000 times that of blood plasma levels.³ Moreover, two recent studies demonstrated that ranibizumab had no remarkable effect on plasma VEGF levels.^{4,5} On the basis of these pieces of information, the neutrophil/lymphocyte ratio (NLR) of the patients with age-related macular degeneration (AMD) may not be affected by the treatment modalities of our study.

Regarding the second comment, patients whose leukocyte count was >12,000 cells/mL or <4000 cells/mL were excluded. This exclusion criteria was based on the literature.^{6–8} Systemic inflammatory response syndrome (SIRS) describes the generalized abnormal inflammatory response caused by a variety of factors (infection, burns, trauma, surgery, etc.).⁶ The range of leukocytes mentioned in the exclusion criteria represents one of the SIRS criteria.^{7,8} All the patients blood samples were evaluated in the laboratory of our hospital. The blood samples were collected in tubes containing dipotassium

ethylenediaminetetraacetic acid (EDTA) and assessed within 60 minutes of the sampling. The neutrophil and lymphocyte counts were measured using the automatic blood counter Cell-Dyn 3700 (Abbott Diagnostics, Santa Clara, CA, USA). This device is reliable in the evaluation of full blood count in daily practice.⁹

Regarding their third comment, we agree with the authors concerning the lack of receiver–operating characteristic (ROC) analysis in the current study. The determination of sensitivity and specificity of NLR for patients with and without AMD would provide more valuable results. Further studies utilizing ROC analysis to evaluate NLR as a marker of inflammation in AMD patients will specify the diagnostic value of NLR.

We used NLR as a simple, inexpensive, reliable indicator of inflammation in patients with AMD. C-reactive protein and erythrocyte sedimentation rate may be used with NLR in the assessment of inflammation and prognosis in patients, but they were not evaluated in this retrospective study due to deficient patient data. Moreover, inflammatory markers, such as tumor necrosis factor-alpha and interleukin-6 tests, were not used because they are expensive and are nonroutine tests for AMD patients.

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Received 23 September 2014; accepted 24 September 2014; published online 27 October 2014

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