

THE RELATION BETWEEN NEUTROPHIL-LYMPHOCYTE RATIO AND SCHIZOPHRENIA: Commentary on Semiz et al. (2014)

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Dear Editor,

We read with great interest the article 'Elevated neutrophil/lymphocyte ratio(NLR) in patients with schizophrenia' by Semiz et al. (2014). They aimed to assess whether NLR was higher in non-obese patients with schizophrenia than in a healthy control group matched for age, sex, and body mass index. They also sought to determine if there was an interaction between NLR and severity of the disorder in patients with schizophrenia. The authors concluded that NLR levels are increased in physically healthy, non-obese, patients with schizophrenia when compared with physically and mentally healthy individuals.

We have some minor comments about this article. A full blood count is an easy examination technique that gives us information about the patient's formed blood contents. In recent years, NLR has been proposed as a surrogate marker for endothelial dysfunction and inflammation in distinct populations and has prognostic and predictive values (Balta et al. 2013a). Because metabolic syndrome, abnormal thyroid function tests, renal or hepatic dysfunction, known malignancy, local or systemic infection, previous history of infection, inflammatory diseases like Behçet's disease (Ozturk et al. 2014), and medication such as antihypertensive therapy (Fici et al. 2013) are related to inflammatory condition, the NLR levels can be potentially affected in all of the abovementioned conditions (Balta et al. 2013b). For these reasons, it would be better, if the authors had mentioned these factors.

The Brief Psychiatric Rating Scale (BPRS) was used to rate clinical pathology in the present study (Semiz et al. 2014). However, BPRS cannot exactly assess the positive and negative symptoms. So, Positive and Negative Syndrome Scale (PANSS) is a novel scale that clearly reveals the positive and negative symptoms. Also, as we know, there is a significant relationship between cognitive functions and negative symptoms in patients with schizophrenia (Harvey et al. 2006). If the authors had observed the relation between negative symptoms and NLR, the presence of neurodegenerative process would be supported in schizophrenia patients. Also, because the relation between NLR and neuro-

degenerative process was observed, if the authors had showed the possible relation between cognitive functions and neurodegenerative process, the alterations of cognitive functions could be associated with inflammatory conditions. Secondly, this study employed a descriptive cross-sectional design. However, the full blood count is an easy examination method and it may be conducted in specific time intervals for longitudinal analyses. In a similar study in Alzheimer's disease, the authors had measured the NLR levels at 18 months, 36 months and 54 months to assess the relationship between neocortical amyloid accumulation and the NLR levels. They identified significant relationships cross-sectionally between the NLR and neocortical amyloid burden, but this relationship was lost after longitudinal analyses (Rembach et al. 2014).

As a conclusion, the role of inflammatory markers in schizophrenia has been extensively evaluated in the past. In addition to NLR, high-sensitivity CRP, red cell distribution width, gamma-glutamyl transferase and uric acid are also used as assessment tools in clinical practice (Demirkol et al. 2014). NLR together with other serum inflammatory markers, is proving to be a significant clinical tool (Ozturk et al. 2014).

Acknowledgements: None.

Conflict of interest: None to declare.

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