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LETTER TO THE EDITOR

The relation between neutrophil–lymphocyte ratio and acute kidney injury

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We read the article ''Can neutrophil–lymphocyte ratio (NLR) be independent risk factor for predicting acute kidney injury (AKI) in patients with severe sepsis?'' by Yilmaz et al.[1] They aimed to assess whether NLR is a predictor of AKI in patients with septic shock. They concluded that the NLR is superior to C-reactive protein (CRP), and white blood cells (WBCs) for predicting the development of AKI in patients with severe sepsis.

A complete blood count is an easy examination technique that gives us information about the patient's formed blood contents. It includes the total WBC count and its subtypes as an indicator of systemic inflammation.[2] Accordingly, the NLR can be easily calculated from the differential WBC count, which is widely available and routinely performed.[3] The NLR can easily be calculated.[4] This calculation is very simple and cheap when compared with the other inflammatory markers like CRP. Furthermore, the NLR has been demonstrated to have a predictive power for cardiac and non-cardiac diseases.[5,6] Recently, the NLR has been widely used to determination the severity of inflammation in cardiovascular disease,[7] malignancies, diabetes mellitus, hypertension.[8] Furthermore, the NLR was studied in auto inflammatory diseases. For example, in one study, the NLR was higher in patients with familial Mediterranean fever than controls.[9] In another study, the NLR was found to be higher in patients with active ulcerative colitis compared with controls and inactive patients.[10] Behçet's disease (BD) could lead to dysfunction in varying degrees, depending on the severity of the disease and the affected organ. For them, the NLR may use activity marker for BD patients. We have shown that NLR levels were significantly higher in active BD patients compared with inactive patients.[11] This ratio is significantly altered by many conditions (e.g. dehydration, over-hydration, diluted blood specimens, in vitro blood specimen handling). For example, several types of cancer and their progression have been linked to the NLR. Cancer is a common condition that may co-exist with CVD. Cancer itself may be associated with an increased risk of thrombosis. In addition, some medications may affect the NLR. The NLR significantly decreased after statin therapy. Antihypertensive therapy like nebivolol, valsartan and amlodipine significantly lowered the NLR.[8,12] In this context, medication should be considered, when the NLR is assessed.

We believe that these findings will elucidate further studies about NLR as a surrogate marker of prognosis in AKI patients. Finally, NLR itself alone without other inflammatory markers may not give information to clinicians about the chronic endothelial inflammatory condition of the patient.[13] So, we think that it should be evaluated together with other serum inflammatory markers.

Declaration of interest

There is no conflict of interest.

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