LETTER

Enhancing Understanding of Acute Ischemic Stroke Research in the Elderly: A Discussion on the Importance of Inflammatory Markers [Letter]

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Dear editor

We read and analyzed with great interest the article "The Prognosis of Neutrophil-to-Lymphocyte Ratio and Lymphocyte-to-Monocyte Ratio in Elderly with Acute Ischemic Stroke"[1] published by Wang et al in your journal. This article provides important insights into the potential value of NLR and LMR in predicting clinical outcomes in elderly patients with acute ischemic stroke (AIS). However, we believe that the rigor of the study and the reliability of the results could be further improved in several key areas.

First, it is noteworthy that the authors did not include in the baseline data an assessment of the patients' neurological function on admission. In routine neurologic practice, the National Institutes of Health Stroke Scale (NIHSS) and the Glasgow Coma Scale (GCS) constitute standardized tools for assessing the degree of initial neurologic injury in stroke patients.[2,3] It has been shown that higher NIHSS scores or lower GCS scores usually predict more severe stroke and poorer prognosis and are strongly associated with the patient's neuroinflammatory state.[4] Omission of these scores may diminish our ability to analyze the relationship between inflammatory markers and patients' final clinical outcomes.

Second, the authors make it clear in their discussion that the combined use of NLR and LMR is more effective in predicting prognosis than either alone. Although the combination of NLR and LMR showed slightly higher AUC values (AUC = 0.706; 95% CI: 0.662–0.750), not performing statistical tests (eg, the DeLong test) to confirm whether these differences are statistically significant may lead to unstable and misleading conclusions. Therefore, we suggest that the authors should be more careful in explaining this in the results and discussion.

In addition, multivariate analysis of the article showed that the predictive efficacy of neutrophil count (expressed as OR) was significantly higher than that of NLR and LMR. This finding implies that the absolute number of neutrophils may be a more potent independent prognostic factor than the NLR or, at the very least, a biomarker that correlates more directly with poor prognosis in patients with acute ischemic stroke. The authors may have masked the true effect of neutrophils by the ratio to lymphocytes when calculating NLR. Therefore, we suggest adding a separate curve for neutrophils to the receiver operating characteristic (ROC) curve analysis. Such a comparison may reveal more clearly the clinical value of various biomarkers in predicting the prognosis of acute ischemic stroke.

Finally, we are very grateful for the opportunity to study the research results of Wang et al on AIS patients. This study reveals the important role of inflammatory factors in predicting the prognosis of AIS patients, which provides us with valuable guidance for future mechanistic studies and clinical diagnosis and treatment. The purpose of this letter is to further improve this outstanding study and to inspire more professionals to join the research in this field. We look forward to witnessing more outstanding research on AIS in the future.

Disclosure

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this communication.

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