

Comparison of Current Methods with Neutrophil-to-Lymphocyte Ratio in Predicting Stroke-Associated Pneumonia [Letter]

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Dear editor

We read this study¹ with great interest. The concept of stroke-associated pneumonia (SAP) was first proposed by Hilker in 2003.² It is one of the important risk factors for death after stroke, and it increases the length of hospital stay and medical expenses, which brings a heavy burden to the family and society. In this article, the authors select a common clinical parameter in comparison of C reactive protein level for the prediction of the incidence of SAP. This is a novel idea and could be promoted in clinical practice.

However, there might be three points need to be mentioned for the readers.

1. The SAP criteria is slightly different compared to previous guidelines.³ In this study, the authors cited Chinese domestic expert consensus of SAP diagnosis. This might lead to slight bias in future research. Better illustrated data regarding the usage of different criteria might be a more convincing article.
2. For the application of prediction of SAP, we need to be more careful in first comparing the non-superiority of this prediction model with current available scores.

Since 2012, a number of studies⁴ have used multivariate regression models to design different SAP prediction scores, based on stroke-related risk factors, including stroke-induced immunosuppression, dysphagia, age, gender, smoking, stroke severity, stroke type, stroke location, level of consciousness, feeding method, application of acid inhibitors, admission to the intensive care department, combined with hypertension, diabetes, history of chronic respiratory diseases, and history of atrial fibrillation, etc. Among these risk factors, stroke-induced immunosuppression and dysphagia are important independent risk factors for SAP.

In 2018, a multicenter observational study⁵ of external validation of the SAP predicting score ISAN, A2DS2, and AIS-APS was carried out, with the conclusion of recommending AIS-APS score for future clinical trials.

Future comparison of the clinical parameter of Neutrophil-to-Lymphocyte Ratio with AIS-APS score will be more convincing for the neurologists in clinical practice.

1. A study by Cheng et al⁶ showed that higher monocyte-to-lymphocyte ratio (MLR) was significantly associated with SAP in AIS patients. Another study by Cao et al⁷ shows that a high MLR is an independent risk factor for SAP and has a predictive value for severe pneumonia in patients with SAP. Compared to this article, the authors use neutrophils rather than monocytes in the ratio. A comparison between these two might also be helpful in determining the clinical significance.

Nevertheless, thanks to the authors, we have a better understanding in interpreting the clinical values of the auxiliary examination. SAP-related research fields have accumulated more clinical evidence, especially the evidence from the Chinese population, and our understanding of SAP has been further deepened.

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Disclosure

The authors report no conflicts of interest for this communication.

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