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Neutrophil-lymphocyte ratio predicts the outcome of intracerebral hemorrhage: A meta-analysis and systematic review

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Abstract

Background: The neutrophil-lymphocyte ratio (NLR) is increasingly known as an indicator of systemic inflammation. It is used as a predictor for clinical outcomes in cancers and cardiovascular disease. However, its relationship with intracerebral hemorrhage (ICH) is still disputed.

Aims: We sought to evaluate the association between NLR and ICH in this meta-analysis.

Methods: Potentially relevant articles were searched in PubMed, Cochrane Library, Medline and EMBASE until April 8, 2018, with English restriction. Efficacy outcomes included major disability at 90 days, short-term mortality or in-hospital mortality. Odds ratios (ORs) with 95% confidence intervals (95% CIs) were pooled to estimate the prognostic role of NLR in ICH.

Results: A total of 7 trials with 2176 patients were included. The results of our meta-analysis revealed that high NLR had a higher risk of major disability at 90 days (OR: 2.20; 95% CI: 1.27-3.81) and higher mortality at short-term (OR: 1.31; 95% CI: 1.02–1.68); without statistically significant association with in-hospital mortality (OR: 1.02; 95% CI: 0.91–1.15).

Conclusions: Our meta-analysis proves that higher NLR was a predictor of major disability at 90 days and higher mortality at short term in patients with ICH, but not a predictor of in-hospital mortality.

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