

7. Mean platelets volume and neutrophil to lymphocyte ratio as predictors of stroke

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Abstract

BACKGROUND:

Mean platelets volume (MPV) is a marker, which indicates platelet function, and is a potential link between inflammation and thrombosis. Previous studies have found a relation between high MPV levels and high risk of stroke. Another factor that has been associated with the risk of stroke is neutrophil to lymphocyte ratio (NLR). Several studies have reported an association between increased NLR and increased risk of cerebrovascular disease. It was found that NLR levels have a relation to the prognosis as well. Since both NLR and MPV have been associated with increased risk of cardiovascular disease, together they may predict the risk of stroke and the prognosis with higher sensitivity and specificity.

METHODS:

This is a descriptive retrospective study. Data were gathered from medical records of patients who applied the Ziv medical center and were diagnosed with stroke. Stroke severity was evaluated using the NIHSS (national institutes of health stroke scale). MPV and NLR levels of patients with stroke were compared to those of 30 healthy individuals.

RESULTS:

Neutrophil to lymphocyte ratio levels were found significantly higher in patients with stroke compared with healthy individuals. NLR was also found higher in patients with moderate/severe stroke compared with those with minor stroke. No association was found between MPV level, the risk of stroke, and stroke prognosis. Moreover, an interaction effect between MPV and NLR level was not found.

CONCLUSION:

Neutrophil to lymphocyte ratio is a good predictive factor of stroke and stroke prognosis. Further prospective studies are needed to establish the relationship between the MPV level and the risk of stroke. NLR and MPV interaction effect can be tested again in the future after establishing the association between MPV, the risk of stroke, and stroke prognosis.

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