Intravenous thrombolysis and platelet count


OBJECTIVE
To study the effect of platelet count (PC) on bleeding risk and outcome in stroke patients treated with IV thrombolysis (IVT) and to explore whether withholding IVT in PC < 100 × 10/L is supported.

METHODS
In this prospective multicenter, IVT register-based study, we compared PC with symptomatic intracranial hemorrhage (sICH; Second European-Australasian Acute Stroke Study [ECASS II] criteria), poor outcome (modified Rankin Scale score 3-6), and mortality at 3 months. PC was used as a continuous and categorical variable distinguishing thrombocytopenia (<150 × 10/L), thrombocytosis (>450 × 10/L), and normal PC (150-450 × 10/L [reference group]). Moreover, PC < 100 × 10/L was compared to PC ≥ 100 × 10/L. Unadjusted and adjusted odds ratios (ORs) with 95% confidence intervals (CIs) from the logistic regression models were calculated.

RESULTS
Among 7,533 IVT-treated stroke patients, 6,830 (90.7%) had normal PC, 595 (7.9%) had thrombocytopenia, and 108 (1.4%) had thrombocytosis. Decreasing PC (every 10 × 10/L) was associated with increasing risk of sICH (OR1.03, 95% CI 1.02-1.05) but decreasing risk of poor outcome (OR0.99, 95% CI 0.98-0.99) and mortality (OR0.98, 95% CI 0.98-0.99). The risk of sICH was higher in patients with thrombocytopenic than in patients with normal PC (OR1.73, 95% CI 1.24-2.43). However, the risk of poor outcome (OR0.89, 95% CI 0.39-1.97) and mortality (OR1.09, 95% CI 0.83-1.44) did not differ significantly. Thrombocytosis was associated with mortality (OR2.02, 95% CI 1.21-3.37). Forty-four (0.3%) patients had PC < 100 × 10/L. Their risks of sICH (OR1.56, 95% CI 0.48-5.07), poor outcome (OR1.63, 95% CI 0.82-3.24), and mortality (OR1.38, 95% CI 0.64-2.98) did not differ significantly from those of patients with PC ≥ 100 × 10/L.
CONCLUSION
Lower PC was associated with increased risk of sICH, while higher PC indicated increased mortality. Our data suggest that PC modifies outcome and complications in individual patients, while withholding IVT in all patients with PC < 100 × 10/L is challenged.

type: journal paper/review (English)
date of publishing: 24-01-2018
journal title: Neurology (90/8)
ISSN electronic: 1526-632X
pages: e690-e697