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Prognostic implications of mean platelet volume on short- and long-term outcomes among patients with non-ST-segment elevation myocardial infarction treated with percutaneous coronary intervention: A single-center large observational study.

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Abstract

BACKGROUND:

Mean platelet volume (MPV) is a simple and reliable indicator of platelet size that correlates with platelet activation and their ability to aggregate. We studied the predictive value of MPV in patients with non-ST-segment elevation myocardial infarction (NSTEMI) treated with percutaneous coronary intervention (PCI).

METHODS:

We analyzed the consecutive records of 1001 patients who were hospitalized due to NSTEMI at our center. The primary end point was a composite end point that included the rates of all-cause death, non-fatal myocardial infarction, and acute coronary syndrome (ACS) driven revascularization at 12 months. The enrolled patients were stratified according to the quartile of the MPV level at admission.

RESULTS:

Along with the increasing quartile of MPV, the 12-month composite end point increased significantly (p = 0.010), and this association remained significant after the risk-adjusted analyses (per 1 fL higher MPV; adjusted hazard ratio [HR] 1.13; 95% confidence interval [CI] 1.02-1.27; p = 0.026). In the multivariate analysis, the MPV was also an independent factor of all-cause mortality (per 1 fL increase; adjusted HR 1.34; 95% CI 1.12-1.61; p = 0.0014) and death or non-fatal myocardial infarction (per 1 fL increase; adjusted HR 1.16; 95% CI 1.03-1.31; p = 0.017).

CONCLUSION:

In patients with NSTEMI treated with PCI, a high MPV value was associated with a significantly increased incidence of long-term adverse events, particularly for all-cause mortality.

KEYWORDS:

Long-term prognosis; mean platelet volume; non-ST-segment elevation myocardial infarction; percutaneous coronary intervention

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