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Incidence and outcome of high on-treatment platelet reactivity in patients with non-ST elevation acute coronary syndromes undergoing percutaneous coronary intervention (from the VIP [VerifyNow and Inhibition of Platelet Reactivity] study)

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High residual platelet reactivity (RPR) on clopidogrel treatment has been associated with increased risk for ischemic events during follow-up in patients with acute coronary syndromes. The aim of this study was to assess the incidence, predictors, and clinical consequences of high RPR in a large population of patients with non-ST-segment elevation acute coronary syndromes who underwent percutaneous coronary intervention and stenting. Overall, 833 patients received point-of-care testing of platelet inhibition 30 days after percutaneous coronary intervention. High RPR was diagnosed on the basis of $P2Y_{12}$ reaction units >230. The incidence and predictors of death, myocardial infarction, stroke, and serious bleeding events were assessed up to 1 year from the day of testing. $P2Y_{12}$ reaction units were normally distributed, and 264 patients were classified as poor responders (31.7%). Independent predictors of response to clopidogrel were male gender (odds ratio [OR] 1.51), age (OR 0.96), diabetes mellitus (OR 0.51), and use of proton pump inhibitors (OR 0.59). At 1 year, poor responders showed higher rates of death (4.6% vs 1.9%, p = 0.032) and serious bleeding events (4.9% vs 1.8%, p = 0.009) compared with good responders. After adjustment for confounders, high RPR did not emerge as an independent predictor of mortality (OR 0.57, 95% confidence interval [CI] 0.23 to 1.42, p = 0.23) or serious bleeding events (OR 0.61, 95% CI 0.25 to 1.52, p = 0.29). The results did not change using the a cut-off value for $P2Y_{12}$ reaction units of 208. In conclusion, 1/3 of patients with acute coronary syndromes who underwent percutaneous coronary intervention and stenting showed high on-treatment RPR on bedside monitoring. They had a worse prognosis, but the level of platelet inhibition was not independently associated with the incidence of ischemic or bleeding events.