

## Follow-up of Response to Clopidogrel Over Time among Patients after Myocardial Infarction

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Background: Low response to the anti-platelet effects of clopidogrel has been clearly associated with adverse cardiac events. In most studies clopidogrel response was measured at a single time point after percutaneous coronary intervention (PCI) and/or acute coronary syndrome (ACS). It is unclear, however, whether the phenomenon of low response to clopidogrel is stable over time, or changes after the acute event. Accordingly, we aimed to examine response to clopidogrel in patients with ACS over time.

Methods: Patients with AMI treated with PCI were assessed for response to clopidogrel at 3 time points: a. 24 hours after loading and PCI; b. 3-4 days after the PCI; c. 30 days after the PCI. In patients who received GP IIb/IIIa inhibitors during PCI, the first time point was discarded. Response to clopidogrel was assessed by the VerifyNow P2Y12 assay (results in PRU) and the Multiplate analyzer, which measures ADP-induced whole blood aggregation (results in AU). Low response to clopidogrel was defined as PRU  $\leq$  240 or AU  $\leq$  45.

Results: Forty-eight patients were recruited. Full data at all 3 time points is currently available for 36. The mean age was 59.4  $\pm$  12.3 years, 17% were women, 22% had diabetes, 67% were admitted with STEMI and the rest with NSTEMI. Low response to clopidogrel according to VerifyNow P2Y12 was observed in 30.5% of patients at the early time points (1 or 2) and 33% after 1 month (P=NS). Low response to clopidogrel according to the Multiplate assay was observed in 33% of patients at the early time points and 36% after 1 month (P=NS). There were no significant differences in mean platelet reactivity between the 3 time points (Table).

Conclusions: There do not appear to be differences in the rate of low response to clopidogrel and in platelet reactivity over one month in patients with MI who underwent PCI.

	24 hours post-PCI	3-4 days post-PCI	1 month post-PCI
VerifyNow P2Y12 (P2Y12 Reaction Units)	210.5 $\pm$ 79	199.6 $\pm$ 61	227.3 $\pm$ 65
Multiplate Assay (Aggregation Units)	35.5 $\pm$ 14	36 $\pm$ 13	40.3 $\pm$ 19