IMPACT OF CLOPIDOGREL ON-TREATMENT PLATELET REACTIVITY ON STENT THROMBOSIS AFTER PERCUTANEOUS CORONARY INTERVENTION: RESULTS FROM A COLLABORATIVE META-ANALYSIS OF INDIVIDUAL PARTICIPANT DATA

I2 Oral Contributions
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Background: Clinical evidence has been controversial regarding the influence of clopidogrel on-treatment platelet reactivity and stent thrombosis.

Methods: We searched multiple data sources for studies assessing platelet reactivity using the VerifyNow P2 Y12 assay. A database containing individual patient-level time-to-event data was generated from identified studies. The method of Kaplan-Meier was used to calculate event rates. The log rank test, adjusted for multiple comparisons, was used to compare groups. Cox proportional hazards models were also generated. The study cohort was divided into quartiles; quartile 1 had the lowest on treatment platelet reactivity (measured as platelet reaction units, PRU) and was taken as referent.

Results: A total of six studies were included providing a total of 3059 patients. The stent thrombosis rate at 2-years was significantly greater in quartile 4 compared to quartile 1, 3.4% versus 0.4%, respectively (P = 0.002). A PRU threshold value of 230 appeared to best predict ischemic events. Among subjects with PRU >= 230 versus < 230, the hazard ratio for stent thrombosis was 2.50 (95% CI, 1.31-4.79; p=0.005).

Conclusions: Patients with high clopidogrel on-treatment platelet reactivity had a higher rate of stent thrombosis. The ability of a single antiplatelet aggregation assessment post-PCI to predict stent thrombosis may have important clinical implications.