

made it possible to quantify weak change of the flow resistance due to the geometrical variations.

**Results** The parent artery curvature and angle of incidence of the blood flow clearly affect the flow diversion effect (K) of Pipeline (Figure 1). Flow diversion effect diminishes in tighter curvature. Also noted is higher angle of incidence reduces flow diversion effect.

**Conclusion** The parent artery curvature and angle of incidence are important parameters that may affect the efficacy of Pipeline.

**Disclosures** S. Tateshima: 1; C; Material Support/Medtronic. 2; C; Consultant/Medtronic, Consultant/Stryker, Consultant/Blockade Medical, Consultant/PulsarVascular, Consultant/Century Medical Inc., Consultant/Penumbra. 4; C; PulsarVascular, Blockade Medical. 6; C; Microvention/Fellowship Support Grant. R. Sagas: None. C. Kularni: None. D. Duong: None. S. Obi: None.

# P-019 THE PLAVIX CONUNDRUM: DETERMINING WHO WILL RESPOND TO PLAVIX

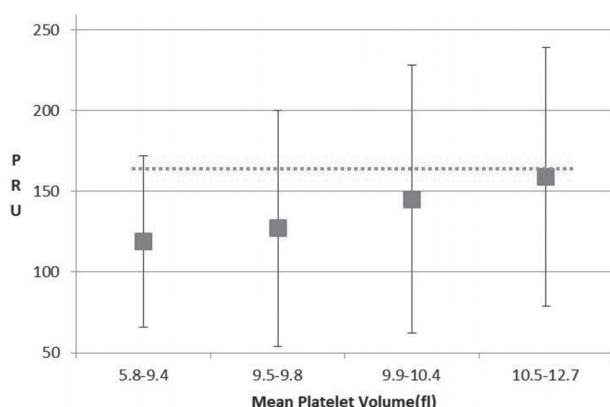
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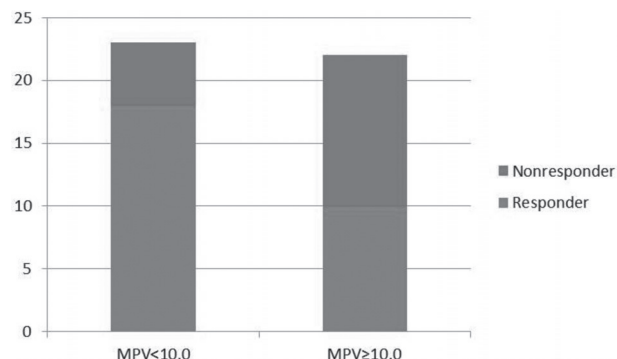
**Introduction** There has been increasing use of dual antiplatelet therapy in neuroendovascular procedures due to the advent of more versatile stents and flow diverters. The cardiac literature suggests that approximately 30% of patients are resistant to Plavix. Multiple studies have suggested that an inappropriate response to Plavix is related to increased risk of embolic complication. Predicting which patients will respond to Plavix would be beneficial and time saving, particularly in urgent scenarios. We sought to determine if there were any factors which could predict responsiveness to Plavix therapy.

**Materials and methods** We conducted a retrospective analysis of 82 patients who were started on aspirin and Plavix dual therapy in preparation for placement of stent placement for aneurysm treatment. A chart review was conducted in order to determine lab values. A PRU  $\leq 170$  was defined as a Plavix responder.

**Results** 82 patients who had been started on aspirin and Plavix dual therapy were identified. Seven patients were loaded for an urgent procedure and these patients were excluded



**Abstract P-019 Figure 1** Average PRU among the MPV quartiles. The dotted line represents a therapeutic PRU of 170



**Abstract P-019 Figure 2** A bar graph depicting nonresponders and responders to Plavix separated by MPV

from the remainder of the evaluation. Twenty three (31%) of patients were found to be resistant to Plavix with a PRU  $> 170$  and nine patients (12%) were found to be hyper-responsive (PRU  $< 40$ ). Women were three times more likely to be nonresponders when compared to men (35% vs 11%,  $p = 0.05$ ). There was no difference in hyperresponsiveness between the two genders (11% vs 17% ( $p = 0.7$ )).

Prior cardiac studies have suggested that a larger mean platelet volume (MPV) may be associated with Plavix nonresponsiveness. This cohort was divided into quartiles based on the MPV prior to Plavix administration. The average PRU increased as the MPV increased between the quartiles (Figure 1).

A subgroup of female patients was then further analyzed in order to determine if any value was predictive of platelet responsiveness. A MPV prior to Plavix initiation of  $\geq 10.0$  was found to be associated with Plavix nonresponsiveness. Five of 23 patients (22%) who had a MPV  $< 10.0$  were found to be nonresponders compared to 12 of 22 patients (55%) who had a MPV  $\geq 10.0$  ( $p = 0.03$ ) (Figure 2).

**Conclusion** Determining which factors play a role in plavix responsiveness will become more essential to the endovascular neurosurgeon as a wide variety of stents continue to be used. This data suggests that women are more likely than men to be nonresponders (35% vs 11%,  $p = 0.05$ ) and that a MPV  $\geq 10.0$  was associated with nonresponsiveness. Larger studies are needed however it may be reasonable to consider starting an alternative antiplatelet agent in female patients with MPV  $\geq 10.0$  in urgent situations.

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# P-020 NON-ISCHEMIC CEREBRAL ENHANCING (NICE) LESIONS SECONDARY TO ENDOVASCULAR ANEURYSM THERAPY: NICKEL ALLERGY OR FOREIGN BODY REACTION? REPORTS OF TWO CASES AND REVIEW OF THE LITERATURE

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