**Impact of VerifyNow Assay Testing on Antiplatelet therapy in Ischemic Stroke Patients**

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**Background:** Individual response to clopidogrel can be varied as patients can be responders or non-responders to clopidogrel therapy. Currently there is a lack of large multicenter studies on the impact of platelet reactivity testing on outcomes in ischemic stroke patients. It is unclear if the use of the Verifynow assay to determine responders can improve safety and efficacy of antiplatelet therapy in ischemic stroke patients.

**Objective:** The primary objective of this study was to assess antiplatelet therapy modification post platelet function test results. Secondary objectives included major bleeding events after therapy modification, new ischemic events after therapy modification, and whether clopidogrel response was related to BMI.

**Methods:** This was a multicenter retrospective chart review at two comprehensive stroke centers in North Carolina. Inclusion criteria included adult patients who had had an ischemic stroke, were receiving clopidogrel, and received a VerifyNow assay from June 1, 2018 to June 1, 2021. Patients were excluded if they were receiving anticoagulation or were on duel antiplatelet therapy due to stent placement. Data points included major bleeding (defined as intracranial bleeding, hemoglobin decrease of > 2 g/dL, bleeding requiring hospitalization, or the need for transfusion secondary to bleeding) at six months, ischemic events at six months, and therapy modification defined as increased dose or drug change.

**Preliminary Results:** 439 patients were identified in search results and randomized. 193 charts were reviewed with 100 patients meeting inclusion criteria. The primary outcome included 35 (35%) patients who had therapy changed from clopidogrel to ticagrelor (80%), aspirin/dipyridamole (2.8%), apixaban (5.7%), rivaroxaban (2.8%), or no further drug therapy (8.5%). Of these patients 24 were changed after an ischemic stroke while on clopidogrel therapy, and 11 were changed after patient was determined to be a clopidogrel non-responder after clopidogrel therapy initiation. The secondary outcome of major bleeding at six months consisted of 3 of 35 (8.57%) patients with therapy change and 3 of 65 (4.62%) patients with no therapy change (P = 0.427). Ischemic events occurred in 6 of 35 (17.14%) patients with therapy change and in 7 of 65 (10.77%) of patients with no therapy change (P = 0.366). The BMI of patients with therapy change averaged 33.6 ± 9.25 and averaged 29.69 ± 4.83 in patients with no therapy change (P = 0.016).

**Conclusion**: In this study 35% of patients who received a VerifyNow assay were changed from clopidogrel to an alternative therapy after test results. Of those patients there was no significant difference between those who had therapy changed and those that did not in regards to major bleeding or ischemic events. Patients who had therapy changed were significantly more likely to have higher BMI.