

Research Highlight

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Dr. Jorge Duconge
Professor
School of Pharmacy
UPR Medical Sciences Campus

Research Project Title: *Adopting a Precision Medicine Paradigm in Puerto Rico: Leveraging ancestral diversity to identify predictors of clopidogrel response in Caribbean Hispanics*

NEW Publication:

Hernandez-Suarez DF, Núñez-Medina H, Scott SA, Lopez-Candales A, Wiley JM, Garcia MJ, Melin K, Nieves-Borrero K, Rodriguez-Ruiz C, Marshall L, Duconge J. Effect of cilostazol on platelet reactivity among patients with peripheral artery disease on clopidogrel therapy. *Drug Metab Pers Ther.* 2018 Mar 28;33(1):49-55. doi: 10.1515/dmpt-2017-0032. PubMed PMID: 29408797; PubMed Central PMCID: PMC5840033. <http://doi.org/10.1515/dmpt-2017-0032>

Background: Antiplatelet therapy with clopidogrel (blood thinner) is recommended to reduce the risk of cardiovascular complications in patients with peripheral artery disease (PAD). Some patients are also treated with another antiplatelet named cilostazol; however, the role of cilostazol on clopidogrel response in this patient population is yet to be determined. Therefore, we studied the effects of cilostazol add-on therapy on platelet reactivity among Puerto Rican PAD patients on clopidogrel.

Scientific Advance: This is the first time that history of type-2 diabetes mellitus, use of cilostazol and hematocrit (Hct) were found to be independent predictors of platelet reactivity in Puerto Rican PAD patients on clopidogrel therapy. Notably, the use of cilostazol lowered mean platelet reactivity in these patients as compared to those non-treated with this medicine (191 ± 55 vs. 224 ± 45 , $p=0.03$).

Public Health Impact Statement: The addition of cilostazol to dual antiplatelet therapy may enhance the antiplatelet effect of clopidogrel in resistant patients with poor medical outcomes. Further studies are now warranted to determine the clinical significance of adjunctive cilostazol therapy and pharmacogenetics on cardiovascular outcomes in PAD patients.

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