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NOVEL HIGH-POTENCY ORAL ANTIPLATELET DRUGS VERSUS CLOPIDOGREL IN PATIENTS UNDERGOING COMPLEX PERCUTANEOUS CORONARY INTERVENTION: RESULTS FROM A LARGE SINGLE-CENTER ALL-COMERS REGISTRY

Poster Contributions

Poster Hall B1

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Background: Patients who undergo complex PCI are at increased risk for short- and long-term adverse cardiovascular events. The role of novel antiplatelet drugs (NAPD) such as ticagrelor or clopidogrel in this subpopulation has not been explored so far.

Methods: All the consecutive patients undergoing complex PCI at our center (Mount Sinai Hospital, New York City, New York) between January 2009 to December 2012 have been included in the study population. Complex PCI was defined as the presence of bifurcation lesions, chronic total occlusions, moderate / severe calcifications, more than 1 vessel treated or stent length > 30 mm. Patients were categorized in 2 groups according to the antiplatelet medication at discharge: NAPD (Ticagrelor or Prasugrel) or clopidogrel. Our primary objective was to compare the rates of all-cause death, non-fatal myocardial infarction (MI) and target vessel revascularization (TVR) between these 2 study groups.

Results: Overall, 7771 patients were included. Of these 6606 (85%) were discharged on clopidogrel and 1165 (15%) on NAPD. Patients discharged on clopidogrel were more often older, female, with lower BMI, anemic and with a history of previous MI, revascularization and peripheral vascular disease. Conversely, patients discharged on NAPD had a higher prevalence of diabetes mellitus, ACS clinical presentation, longer lesions, bifurcation lesions, coronary thrombus and coronary calcifications. At 1-year unadjusted analysis, patients discharged on clopidogrel had higher all-cause mortality as compared to patients with NAPD (3.41% vs. 1.37%; $p = 0.002$), while no differences were present in the other endpoints. However, following multivariable adjustment, there were no differences in death (HR: 1.54; 95% CI: 0.91 - 2.60; $p = 0.105$), MI (HR: 0.95; 95% CI: 0.65 - 1.40; $p = 0.812$) and TVR (HR: 1.24; 95% CI: 0.98 - 1.57; $p = 0.075$) at 1-year of follow-up.

Conclusion: These data underscore a different pattern of use, driven by clinical and angiographic parameters, of NAPD in patients undergoing complex PCI. In contrast to clinical trial results, NAPDs were not associated with greater efficacy at 1 year compared to clopidogrel.