Ticagrelor versus Clopidogrel in high bleeding risk patients presenting with Acute Coronary Syndromes: insights from the multicenter START-ANTIPLATELET registry

F. Gragnano[1], E. Moscarella[1], P. Calabro'[1], A. Cesaro[1], P.C. Pafundi[1], G. Patti[2], E. Antonucci[3], P. Cirillo[4], P. Pignatelli[5], G. Palareti[3], F. Pelliccia[5], F.C. Sasso[1], V. Pengo[6], P. Gresele[7], R. Marcucci[8]

[1]university of Campania Luigi Vanvitelli, Naples, Italy; [2]University of Eastern Piedmont, Novara, Italy; [3]University of Bologna, Bologna, Italy; [4]Federico II University of Naples, Naples, Italy; [5]Sapienza University of Rome, Rome, Italy; [6]University of Padova, Padua, Italy; [7]University of Perugia, Perugia, Italy; [8]University of Florence, Florence, Italy

On behalf of START-ANTIPLATELET Investigators

Funding Acknowledgement: Type of funding source: None

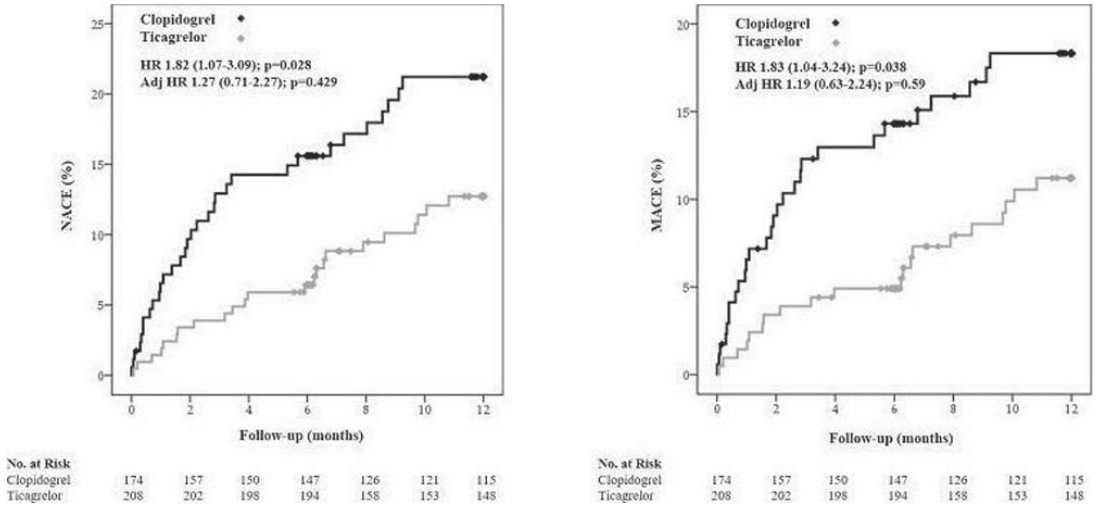
Background: Optimal dual antiplatelet therapy in high bleeding risk (HBR) patients with acute coronary syndromes (ACS) remains debated. Although current guidelines recommend the use of potent P2Y12 inhibitors in these patients (according to the labeled indications), clopidogrel is frequently used in clinical practice based on a perceived advantage in terms of safety in the HBR population.

Purpose: We sought to investigate the use of clopidogrel versus ticagrelor in consecutive HBR ACS patients and their impact on ischemic and bleeding events at 1 year.

Methods: ACS patients enrolled in the START-ANTIPLATELET registry with at least 1 HBR criterion were included in the present analysis and stratified according to DAPT type (clopidogrel versus ticagrelor). The primary endpoint was net adverse clinical endpoint (NACE), defined as a composite of all-cause death, myocardial infarction, stroke, and major bleeding. The secondary endpoints were major adverse cardiac and cerebral events (MACE), defined as a composite of all-cause death, myocardial infarction and stroke, each individual component of NACE and MACE, and target vessel revascularization.

Results: Among a total of 1,209 patients with 1-year follow-up in the registry, 383 patients were considered at HBR, of whom 174 (45.4%) were on clopidogrel and 209 (54.6%) on ticagrelor. Clopidogrel was more likely to be administered in patients at increased ischemic and bleeding risk, while ticagrelor in those undergoing percutaneous coronary intervention. Mean DAPT duration was longer in the ticagrelor group than in the clopidogrel group (10.40±4.29 versus 9.35±5.4; p-value=0.03). At 1-year follow-up, the risk of NACE and MACE events was significantly higher in the clopidogrel than in the ticagrelor group (NACE: HR 1.82; 95% CI 1.07–3.09; p-value=0.02; MACE: HR 1.83; 95% CI 1.04–3.24; p-value=0.03) (Figure). After multivariate adjustment for clinical and procedural characteristics, no difference in NACEs nor MACEs was observed between patients on clopidogrel versus ticagrelor (NACE: adjusted HR 1.27; 95% CI 0.71–2.27; p-value=0.42; MACE: adjusted HR 1.19; 95% CI 0.63–2.24; p-value=0.59) (Figure). Age, number of HBR criteria, and mean DAPT duration were independent predictors of NACEs.

Conclusions: In a real-world ACS registry, approximately 50% of patients are at HBR and frequently treated with clopidogrel. In HBR ACS patients, no difference was observed in ischemic and bleeding events between clopidogrel and ticagrelor after adjustment for potential confounders.



Kaplan-Meier curves at 1-year follow-up.