Effects of switching from ticagrelor to clopidogrel in Acute Coronary Syndrome (ACS) patients undergoing Percutaneous Coronary Intervention (PCI)

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Background: Guidance of antiplatelet therapy and compliance assessment is of great importance for patients with acute coronary syndrome (ACS) and directly affects patients in the short and long term. P2Y12 receptor inhibitors are the main antiplatelet drugs to prevent clotting events for ACS patients. Ticagrelor is the first choice based on myocardial revascularization guidelines and diagnosis and treatment recommendations for patients with ACS 2017, aspirin with ticagrelor is the first choice for initial treatment for patients with ACS. However, there will be shifts between antiplatelet drugs in the clinical real world due to adverse events related to antiplatelet therapy, drug compliance, and economic factors.

Method: The current study reviewed the literature related to the effects of conversion from ticagrelor to clopidogrel in ACS patients after PCI to provide references for the drug's rational clinical use.

Discussion and Conclusion: Many studies have been conflicting results in evaluating specific points in a real-world environment to ACS patients switching from ticagrelor to clopidogrel after PCI treatment. Most studies indicate that early switching of ticagrelor to clopidogrel leads to increased platelet reactivity and an increased incidence of cardiovascular events in the short term. However, switching after a month from PCI might reduce adverse events and bleeding events in ACS patients, saving patients' costs without compromising safety and efficacy.

Recent Publications

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Franchi, F.; Rollini, F.; Rivas Rios, J.; Rivas, A.; Agarwal, M.; Kureti, M.; Nagaraju, D.; Wali, M.; Shaikh, Z.; Briceno, M. Pharmacodynamic effects of switching from ticagrelor to clopidogrel in patients with coronary artery disease: results of the SWAP-4 study. Circulation 2018, 137, 2450-2462.

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Biography

Mohammed Ahmed Akkaif, I'm a PhD candidate currently in the Department of Clinical Pharmacy, School of Pharmaceutical Science, University Sains Malaysia. I've come from Iraq to Malaysia to learn the Role of Integrative Pharmacogenetics and Pharmacometabolomic to personalize Antiplatelet Therapy for patients with coronary heart disease. This approach implies that pharmacometabolomic can be used to identify genetic variation which is associated with the variation of drug response or toxicity. Simply put, this concept is based on the fact that the variation in genes expression may lead to variations in proteins and eventually, the levels of the metabolite which are associated with these pathways will change.