Update in dual antiplatelet therapy in patients with ischemic artery disease

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Platelet activation and aggregation play a critical role in thrombosis, a fundamental pathophysiologic event responsible for the acute clinical manifestations of atherothrombotic events such as acute coronary syndrome, myocardial infarction, ischemic stroke/transient ischemic attack and peripheral artery disease. Dual antiplatelet therapy (low-dose aspirin plus ADP-P2Y12 receptor blockers) has become the cornerstone of therapy for the management of acute and chronic coronary artery disease and the prevention of ischemic complications associated with percutaneous coronary intervention. The newer ADP-P2Y12 inhibitors, prasugrel and ticagrelor, demonstrated superior ischemic outcomes versus clopidogrel, but there are not recommended in patients with stable coronary artery disease, unless in high-risk situations of elective stenting, such as documented stent thrombosis on clopidogrel or left main stenting. Clopidogrel is still the only ADP-P2Y12 inhibitor agent approved for patients with stable coronary artery disease undergoing percutaneous coronary intervention. The currently guidelines support the use of dual antiplatelet therapy for up to 12 months in patients with acute coronary syndrome with or without ST-segment elevation, irrespective of revascularization strategy or stent type. The recommendations for duration of dual antiplatelet therapy in patients with stable coronary artery disease undergoing percutaneous coronary intervention are 1-12 months after bare-metal stents and 6-12 months after first-generation drug-eluting stents. In a past few years, stent technology has improved and a new-generation drug-eluting stents with a safety profile has been developed. This review is focused on the most recent advances in oral antiplatelet therapy and duration of dual antiplatelet therapy in the era of new-generation drug-eluting stents.

Keywords: Antiplatelet, cardiovascular disease, coronary artery disease, stable angina, acute coronary syndrome without ST- segment elevation, ST-segment elevation myocardial infarction, percutaneous coronary intervention, coronary stents.