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Review Article

AN EXTENSIVE REVIEW ON PRASUGREL

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ABSTRACT

In an attempt prasugrel increase in the overall use of this medication comparing to the anti thrombolytics like heparin and warfarin, with less patients complaints includes side effects a significant portion of patients receiving the medication for off label indications. More importantly, this agent is used in a substantial number of patients with known contraindications. Prasugrel are more intense platelet inhibition confirmed by the observation of highest percentage of minor or moderate bleeding among patients taking prasugrel, although there was no significant increase in the rate of severe, major, or life-threatening bleeding.

Keywords: prasugrel, thrombolytics, warfarin, heparin

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INTRODUCTION

Prasugrel is a recently approved drug under the class of thienopyridine for used in the patients with acute coronary syndromes undergoing percutaneous coronary intervention. In an early invasive strategy has become the standard of care for patients having with non–ST-segment elevation of myocardial infarction (NSTEMI). Atherosclerotic plaque can also disruption erosion with superimposed thrombus is the underlying etiology of most cases of NSTEMI. Consequently, many of the patients with NSTEMI undergo percutaneous coronary intervention (PCI) and are treated with coronary stenting during the index catheterization procedure. Approximately one-third of patients are typically triaged after diagnostic angiography to cardiac procedure or treated medically. Besides early catheterization, anticoagulant/antiplatelet therapies represent the cornerstone of pharmacological strategy for NSTEMI. The role of dual antiplatelet therapy (aspirin plus a P2Y12 inhibitor) has been shown to be critical not only as immediate treatment of the NSTEMI episode but also as maintenance therapy to prevent stent thrombosis and major adverse cardiovascular events in the long term. Thus, it is rather remarkable that the best timing for the initiation of P2Y12 inhibitors in patients with NSTEMI has not been clearly established. Clinical guidelines (the 2012 American College of Cardiology Foundation/American Heart Association Focused Update and 2011 European Society of Cardiology guidelines) recommend the initiation of P2Y12 inhibitors "on presentation; as soon as possible" (i.e., before catheterization) on the basis of clinical evidence showing that "on admission" initiation of P2Y12 inhibitors with clopidogrel was superior to no administration of P2Y12 inhibitors. This appeared to be a reasonable expert consensus given the delayed onset of peak antiplatelet activity with the loading dose of clopidogrel. Until the publication of the ACCOAST (A Comparison of prasugrel at the time of percutaneous Coronary intervention or as pre-treatment at the time of diagnosis in patients with non-ST segment elevation myocardial infarction) trial, no study had ever compared different timings of P2Y12 initiation in patients with NSTEMI, making it a landmark trial. The ACCOAST trial randomized 4,033 patients with NSTEMI to pre-treatment with prasugrel (a loading dose of prasugrel 2

to 48 h before catheterization) or no pre-treatment with prasugrel (a loading dose of prasugrel after initial angiography). The primary endpoint (composite of cardiovascular death, myocardial infarction, stroke, urgent revascularization, or glycoprotein IIb/IIIa inhibitor bailout through day 7) was not different between groups. This result implied that a similar clinical effect with a fast-acting agent (onset within 30 min) can be achieved even if it is given after definition of the coronary anatomy when planning for PCI, thus avoiding unnecessary treatment with this agent for patients suitable for cardiac surgery procedure or medical therapy alone. The rate of bleeding events (both coronary artery bypass graft [CABG] related and non-CABG related) at 7 and 30 days was significantly higher in the prasugrel pre-treatment group than in the no prasugrel pre-treatment group.

MECHANISM OF ACTION

prasugrel inhibits the platelet activation and aggregation through Irreversible inhibition of the platelet P2Y12 Adenosine phosphate (ADP) receptor. It is a prodrug it is rapidly metabolized to pharmacology active compound

CONCLUSION AND DISCUSSION

We are concluding that the use of prasugrel and trends in its clinical prescribing practices since drug approval. There are some investigational studies conclude that the prasugrel increase in the overall use of this medication comparing to the anti thrombolytics like heparin and warfarin, with less patients complaints includes side effects a significant portion of patients receiving the medication for off label indications. More importantly, this agent is used in a substantial number of patients with known contraindications. There are some investigations shows prasugrel are more intense platelet inhibition confirmed by the observation of highest percentage of minor or moderate bleeding among patients taking prasugrel, although there was no significant increase in the rate of severe, major, or life-threatening bleeding.

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