

# Prasugrel – a novel antithrombotic oral therapy – compared with clopidogrel for acute coronary syndromes

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The combination of aspirin and clopidogrel represents the current standard antithrombotic treatment for acute coronary syndromes (ACS) and/or coronary angioplasty. However, many patients continue to develop coronary acute events despite this treatment. This fact can be explained, at least in part, by the relative weak antithrombotic activity of clopidogrel and by the large variation of this activity between different patients. Prasugrel represents a new thienopyridine compound with a faster, higher and more consistent antithrombotic activity than clopidogrel.

The TRITON-TIMI 38 trial included 13,608 patients with moderate or high risk ACS scheduled for coronary intervention procedure; the patients were randomized in a 1:1 blinded fashion towards receiving prasugrel (60mg loading dose, followed by 10mg per day maintenance dose) or clopidogrel (300mg loading dose, followed by 75mg per day maintenance dose) for 6 to 15 months. The

primary objective was the incidence of the combined end-point of cardiovascular death, non-fatal acute myocardial infarction (AMI) and non-fatal stroke. This objective developed in 9.9% of patients receiving prasugrel as compared with 12.1% of patients receiving clopidogrel (HR 0.81, 95% CI 0.73 – 0.90). The incidence of non-fatal AMI (7.4% vs. 9.7%,  $p < 0.001$ ), emergency target vessel revascularization (2.5% vs. 3.7%,  $p < 0.001$ ) and acute stent thrombosis (1.1% vs. 2.4%,  $p < 0.001$ ) were in favor of prasugrel. However, the incidence of major hemorrhages (2.4% vs. 1.8%, HR 1.32, 95% CI 1.03 – 1.68), life-threatening hemorrhages (1.4% vs. 0.9%,  $p = 0.01$ ), or death due to hemorrhages (0.4% vs. 0.1%,  $p = 0.002$ ) disfavored prasugrel.

In conclusion, in patients with ACS and scheduled coronary intervention, prasugrel reduces the incidence of cardiovascular deaths and major adverse cardiovascular events at the expense of increased severe (including fatal) bleedings.

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*Comment on the paper:*

Wiviott SD, Braunwald E, McCabe CH, et al for the TRITON-TIMI 38 Investigators – Prasugrel versus Clopidogrel in Patients with Acute Coronary Syndromes. *N Engl J Med* 2007; 357:2001-2015