

## Acute Coronary Syndromes

### COMPARING NEWER ORAL ANTI-PLATELETS PRASUGREL AND TICAGRELOR-A CUMULATIVE NETWORK META-ANALYSIS

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**Introduction:** The two newer antiplatelet drugs, prasugrel and ticagrelor have both been incorporated in various national guidelines and are both under consideration for approval or have already been approved by various drug regulatory authorities. However, superiority of any one remains controversial and inconclusive. In absence of a head to head trial, we attempted to compare the relative efficacies of the two in reduction of meaningful clinical endpoints using a network meta-analysis of published data.

**Methods:** We searched PubMed, EMBASE and Cochrane Central Register of Controlled Trials' databases for randomized controlled trials conducted between 1990 and 2011 that assessed clinical outcomes with prasugrel or ticagrelor. The comparator was standard dosage of clopidogrel. Outcomes assessed were the risk of all cause mortality, TIMI non CABG major bleeding, stent thromboses individually and a composite of stent thrombosis, recurrent ischemia and serious recurrent ischemia in the intervention groups versus the comparator groups. The methodological quality of the studies was assessed. Event rates were compared using a forest plot of relative risk (RR; 95% confidence interval [CI]) using a random effects model (Mantel-Haenszel); and Odd's ratio was calculated in the absence of heterogeneity. Statistical analysis was done with Review Manager V5.1 and Stata Ver 11. Prasugrel was indirectly compared with ticagrelor using network meta-analysis.

**Results:** Four studies (total N = 33,797) met the inclusion-exclusion criteria. Both drugs had improved mortality and greater risk of bleeding compared to clopidogrel; but the outcomes were comparable for both (p=NS). However stent thrombosis (p=0.0192) and composite of recurrent ischemic events (p=0.0045) was reduced much more with prasugrel compared with ticagrelor.

**Conclusions:** This systematic review suggests greater clinical efficacy of both prasugrel and ticagrelor compared with clopidogrel and an indirect comparison indicates prasugrel to be superior to ticagrelor for preventing stent thrombosis and recurrent events.