INTRACORONARY BIVALIRUDIN ADMINISTRATION IN STEMI IMPROVES CORONARY FLOW

Poster Contributions
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Background: Intracoronary (IC) administration of antithrombotic agents increases the local concentrations of drugs in the coronary circulation compared to intravenous (IV) administration possibly making the IC route more efficacious and possibly safer.

Methods: The safety and feasibility of a bolus of IC bivalirudin plus IV bivalirudin (IC B) or IV bivalirudin (IV B) alone was compared among ST elevation myocardial infarction (STEMI) patients in a matched cohort analysis.

Results: Post-PCI TIMI flow grade 3 (TFG3) was improved in IC B vs IV B patients (TFG = 3; 100% vs. 88%, p = 0.05); likewise the median TIMI frame count was numerically faster (26 vs. 32). Right coronary artery (RCA) location was among IC B pts (17/25=68% vs 10/25=40%, p=0.044), and RCAs were associated with TFG3 (26/26=100% vs 19/23=82.6%, p=0.042). TFG 3 was, however, numerically increased or equal in all 3 artery locations with IC B (LAD 100% vs 78%, LCx 100% vs 67%, and RCA 100% vs 100%). TIMI myocardial perfusion tended to be worse in RCAs and in IC B patients. Given the imbalance in RCAs, it is possible that the angiographic outcomes may be explained at least in part by this imbalance. There was no difference in major or minor bleeding associated with IC B vs IV B.

Conclusion: Intracoronary administration of bivalirudin is feasible, safe, and yields good angiographic outcomes. However, confounding by infarct artery location cannot be excluded and further randomized trials of this promising off label use of IC bivalirudin may be warranted.