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MYOCARDIAL ISCHEMIA AND INFARCTION

RANDOMIZED COMPARISON OF PREHOSPITAL INITIATED FACILITATED PCI VERSUS PRIMARY PCI IN ACUTE MYOCARDIAL INFARCTION WITH < 3 H AFTER SYMPTOM ONSET

ACC Poster Contributions
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Session Title: Acute Myocardial Infarction--Can Primary PCI Be Facilitated?
Abstract Category: Acute Myocardial Infarction--Therapy
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Background: Prevention of myocardial necrosis expansion is the main goal of reperfusion in STEMI. Facilitated PCI with fibrinolysis did not show a benefit in comparison to primary PCI in recent trials. However, a subgroup of patients with high-risk STEMI presenting early after symptom onset, treated with optimal antiplatelet co-medication, and with long transfer times might benefit from a fibrinolytic-based facilitated PCI. Aim of this multicenter trial was therefore to assess the merits of facilitated PCI versus primary PCI in a STEMI network with long transfer distances up to 70 km.

Methods: Patients with STEMI (< 3 h after symptom onset) were randomized to either prehospital initiated facilitated PCI using tenecteplase (group A; n=81) or primary PCI (group B; n=81). Optimal prehospital co-medication consisted of 600 mg clopidogrel loading-dose plus aspirin. The primary endpoint was infarct size assessed by delayed enhancement MRI. Secondary endpoints were microvascular obstruction and myocardial salvage, early ST-segment resolution, and a composite of death, re-MI, and congestive heart failure at 30 day follow-up.

Results: The median time from symptom-onset to randomization was 64 min (IQR 42; 103) in group A vs 55 min in B (IQR 27; 91; p=0.26). The median symptom-onset to balloon time was 157 min (IQR 121; 224) vs 131 min (IQR 108; 177; p=0.03). Despite better preinterventional TIMI-flow in group A (76% vs 28% TIMI 2 or 3; p<0.001) the infarct size was similar in group A vs group B (14.1% of left ventricle [IQR 5.3; 26.7] vs 15.1% [IQR 7.5; 23.3]; p=0.75). There was also no difference in microvascular obstruction, myocardial salvage (p=0.65 and 0.71) and ST-segment resolution (p=0.42). For the combined clinical endpoint there was trend towards higher event rates in group A (18.9% vs 8.1%; p=0.09, relative risk 2.33, 95% confidence interval, 0.98-5.63). However, there was no difference in major bleeding and stroke (8.2% vs 5.5%; p=0.74).

Conclusions: In patients with STEMI presenting early with relatively long transfer times a fibrinolytic-based facilitated PCI approach with optimal antiplatelet co-medication does not offer a benefit over primary PCI with respect to infarct size and tissue perfusion.