

The Impact of Intra-Coronary Thrombus Aspiration on STEMI Outcomes

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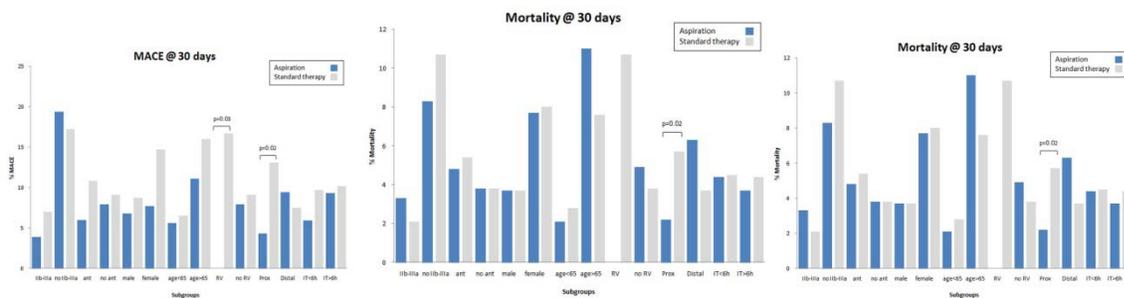
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Background: Manual coronary thrombus aspiration was associated with improved outcomes of STEMI patients. We aimed to evaluate the outcome of aspiration in a "real-world" setting of primary PCI (PPCI).

Methods and Materials: We analyzed the outcome of STEMI patients who underwent PPCI (initial TIMI flow grade 0/1), comparing patients who underwent aspiration (ASP) to those who had standard (STD) therapy. Various subgroups outcomes were further analyzed. Clinical endpoints included mortality and MACE at 30 days and at one year.

Results: 1035 consecutive patients were included: 189 (18.26%) with ASP and 846 (81.74%) with STD. ASP patients were younger (58 ± 12 vs. 61 ± 13 , $p < 0.05$) and higher incidence of direct stenting compared to STD (34% vs. 16.7%, $p < 0.05$). No significant differences were noted in the outcome of ASP vs. STD at 30 day (mortality rate 4.2% vs. 4.5%, $p = 0.9$; MACE 6.9% vs. 9.8%, $p = 0.2$) and at 1 year (mortality rate 8.0% vs. 8.3%, $p = 0.9$; MACE 20.0% vs. 22.3%, $p = 0.5$). A significant advantage in favour of ASP was evident in patients with proximal culprit lesions, anterior infarcts and those with right ventricular involvement (fig1-2).

Conclusions: Although this was largely a negative study, when STEMI involved a large jeopardized myocardium, aspiration was associated with sustained improved clinical outcomes.



Figures 1-2: Prevalence of mortality and MACE (all-cause mortality, re-infarction, TVR and unplanned CABG) in subgroups of patients undergoing standard therapy vs. aspiration thrombectomy at 30d. Only significant p is presented. (RV-right ventricle involvement, Prox-proximal culprit lesion, IT-ischemic time)