**TCT-237**

**Effect of Thrombus Burden and Its Residue on No-reflow Phenomenon After Manual Thrombectomy in ST-elevation Myocardial Infarction Patients**

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**Purpose:** To investigate the effectiveness of manual thrombectomy in decreasing thrombus burden, and the effect of residual thrombus on myocardial perfusion after thrombectomy.

**Methods:** A multicenter, randomized, prospective trial including 479 acute myocardial infarction (MI) patients was conducted to compare the efficacy and safety of the everolimus- and zotarolimus-eluting stents for coronary lesions. After excluding 197 non-STEMI patients, 283 STEMI patients undergoing primary percutaneous coronary intervention (PCI) were studied. The no-reflow phenomenon incidence after primary PCI was compared between the small thrombus burden (n=138) and large thrombus burden (n=151) groups defined by thrombus score of ≥3. Aspiration thrombectomy was performed in all 283 thrombus burden group (49%), and the no-reflow incidence in this group was compared based on thrombectomy treatment and pre-stenting residual thrombus. No-reflow phenomenon was observed as a final TIMI flow grade of <2 or myocardial blush grade of <1.

**Results:** No-reflow phenomenon occurred more frequently in the large thrombus burden patients without thrombectomy, followed by those who underwent thrombectomy, and the small thrombus burden group (33.8% vs. 18.9% vs. 10.1%, p<0.001). Fifteen patients with pre-stenting residual thrombus had a higher no-reflow incidence than those without visible pre-stenting thrombus (66.7% vs. 15.7%, p<0.001). Logistic analysis revealed that non-STEMI patients had a higher no-reflow phenomenon incidence than STEMI patients with large thrombus burden (OR: 0.11, p<0.001) and the no-reflow phenomenon incidence increased progressively with the residual thrombus after thrombectomy (OR: 2.93, p<0.001).

**Conclusion:** The aspiration thrombectomy substantially reduces no-reflow phenomenon incidence and thus may reduce residual thrombus after thrombectomy.

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**Low Event Rates At Long-term Follow-Up In The Randomized Myocardial Infarction XAMI Trial Comparing First And Second Generation Drug Eluting Stents**

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**Purpose:** To compare the efficacy and safety of the first-generation (everolimus-eluting stents) and second-generation (sirolimus-eluting stents) drug-eluting stents (DES) up to five years after implantation.

**Methods:** The XAMI trial randomized patients with anterior STEMI undergoing bivalirudin primary PCI to EES or SES (2:1) and was followed up to five years. The primary endpoint was a composite of cardiac death, non-fatal myocardial infarction, or any target vessel revascularization event up to five years.

**Results:** The five-year follow-up rates of the primary endpoint and its components for EES and SES were comparable, with no differences in target vessel revascularization (TVR), target lesion revascularization (TLR), and stent thrombosis rates. The five-year rates of cardiac death, non-fatal myocardial infarction, and all-cause mortality were low, with similar rates for EES and SES.

**Conclusion:** The XAMI trial demonstrated the long-term efficacy and safety of EES and SES in patients with anterior STEMI, with no significant differences between the two stent types up to five years follow-up.

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**TCT-239**

**Clinical Utility of Peak Creatine Kinase-MB Measurements in Predicting Left Ventricular Dysfunction and Clinical Outcomes After First Anterior Myocardial Infarction: An INFUSE-AMI Sub-study**

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**Purpose:** To determine the clinical utility of peak creatine kinase-MB (CK-MB) measurements in predicting left ventricular dysfunction and clinical outcomes after first anterior myocardial infarction (MI).

**Methods:** The INFUSE-AMI study randomized anterior STEMI patients to bivalirudin and unfractionated heparin primary PCI. The primary endpoint was a composite of cardiac death, non-fatal MI, or any target vessel revascularization event at 30 days. The secondary endpoint was the incidence of cardiac death, non-fatal MI, or any target vessel revascularization event at one year.

**Results:** Median peak CK-MB was 240 IU/L, which was strongly correlated with infarct size. The incidence of cardiac death, non-fatal MI, or any target vessel revascularization event at one year was low with 1.1% for EES and only 0.5% for SES.

**Conclusion:** Peak CK-MB measurements are useful for predicting left ventricular dysfunction and clinical outcomes after first anterior MI, with low rates of cardiac death, non-fatal MI, or any target vessel revascularization event at one year.