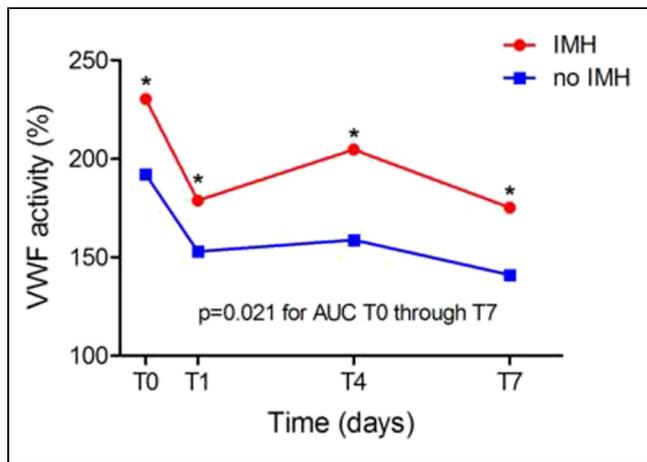


Cardiac magnetic resonance was performed 4-6 days after PCI to determine infarct size and IMH. In 23 Yorkshire swine, the circumflex coronary artery was occluded for 75 minutes by a balloon catheter. rADAMTS13 or vehicle was administered intracoronary following reperfusion. Myocardial injury and infarct characteristics were assessed using cardiac enzymes, ECG, and histopathology.

RESULTS In patients with IMH, VWF activity and VWF antigen were significantly elevated directly after PCI and for all subsequent measurements, and ADAMTS13 activity significantly decreased at 4 and 7 days following PCI; in comparison to patients without IMH. VWF activity and ADAMTS13 activity were not related to infarct size. For rADAMTS13 treated animals no differences in myocardial infarct size, IMH, or formation of microthrombi were witnessed in comparison to controls.



CONCLUSIONS No correlation was witnessed between VWF/ADAMTS13 and infarct size in patients; and intracoronary administration of rADAMTS13 did not decrease infarct size or IMH in a porcine model of myocardial ischemia-reperfusion. These data dispute the imbalance in ADAMTS13 and VWF as the cause of no reflow. Restoring the imbalance between ADAMTS13 and VWF most likely will not be beneficial in STEMI patients already treated with standard antiplatelet and anticoagulant therapy.

CATEGORIES OTHER: Pre-Clinical/First In-Human Studies

KEYWORDS Acute myocardial infarction, Hemorrhage, No-reflow phenomenon

TCT-237

Efficacy and Safety of Routine Thrombus Aspiration in Patients with ST-segment Elevation Myocardial Infarction Undergoing Primary Percutaneous Coronary Intervention: an updated Systematic Review and Meta-Analysis of Randomized Controlled Trials

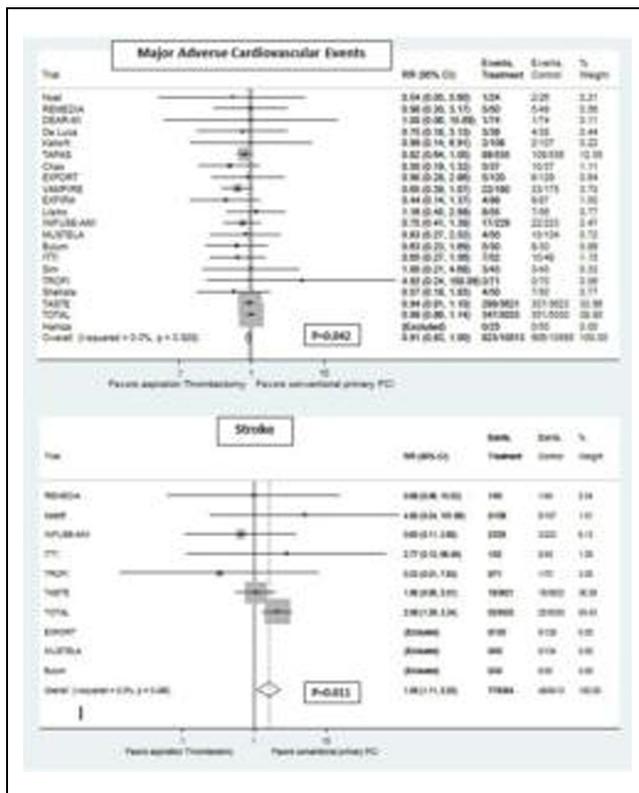
Ioannis Matoris,¹ Gennaro Giustino,¹ Samantha Sartori,¹ Usman Baber,¹ Roxana Mehran,¹ Annapoorna Kini,¹ Samin K. Sharma,¹ George Dangas¹
¹Icahn School of Medicine at Mount Sinai, New York, NY

BACKGROUND Randomized clinical trials evaluating the role of thrombus aspiration (TA) in patients undergoing primary percutaneous coronary intervention (PPCI) for ST-segment elevation myocardial infarction (STEMI) have yielded contrasting results. Therefore, the efficacy and safety of TA in STEMI is unclear.

METHODS We included study-level data from 25 randomized controlled trials (RCTs), involving 21,733 patients with STEMI and PPCI. The primary efficacy endpoint was MACE according to study definitions; the primary safety endpoint was stroke. We sought to evaluate the efficacy and safety of TA during PPCI for STEMI compared with conventional PPCI alone.

RESULTS The mean weighted follow-up time across studies was 8.2 months. Compared with conventional PPCI, TA was associated with significant lower risk for MACE (Relative Risk [RR]: 0.91; 95% Confidence Interval [CI]: 0.83 - 1.00; p = 0.042). However, this benefit in MACE was counterbalanced by a significant increase in the risk for stroke (RR: 1.58; 95% CI: 1.11 - 2.25; p = 0.011). There were no differences in the risk of myocardial infarction (RR: 0.94; 95% CI: 0.78 - 1.12;

p = 0.486), target vessel revascularization (RR: 0.93; 95% CI: 0.82 - 1.04; p = 0.2) and definite or probable stent thrombosis (RR: 0.84; 95% CI: 0.66 - 1.07; p = 0.148). TA was associated with an overall lower risk for all-cause mortality, which did not reach statistical significance (RR: 0.88; 95% CI: 0.78 - 1.00; p = 0.059).



CONCLUSIONS Compared with conventional PPCI for STEMI, adjunctive TA reduces the risk of subsequent MACE. However, the benefit in MACE is counterbalanced by an increased risk in stroke. Considering the above potential risks and benefits, TA should be considered in selected patients lesions rather than routinely.

CATEGORIES CORONARY: Thrombus / Thrombectomy and Embolic Protection

KEYWORDS Percutaneous coronary intervention, STEMI, Thrombus aspiration

TCT-238

Impact of Smoking on Infarct Size and Adverse Events in Patients With Anterior ST-Elevation Myocardial Infarction: Results From the INFUSE-AMI Trial

Gennaro Giustino,¹ Sorin Brener,² Akiko Maehara,³ Philippe Genereux,⁴ Roxana Mehran,⁵ Dariusz Dudek,⁶ Thomas Neunteufl,⁷ D. Christopher Metzger,⁸ M.O. Ozan,⁹ C. Michael Gibson,¹⁰ Gregg W. Stone¹¹

¹Icahn School of Medicine at Mount Sinai, New York City, NY; ²New York Methodist Hospital, Brooklyn, NY; ³Cardiovascular Research Foundation and Columbia University Medical Center, New York, United States; ⁴Columbia University Medical Center, New York; ⁵Icahn School of Medicine at Mount Sinai, New York, United States; ⁶University Hospital, Krakow, Poland; ⁷AKH Vienna Austria, Vienna, Vienna; ⁸Wellmont CVA Heart Institute, Kingsport, United States; ⁹Cardiovascular Research Foundation, New York, NY; ¹⁰Beth Israel Deaconess Med Ctr - Harvard Medical School, Boston, United States; ¹¹Columbia University Medical Center and the Cardiovascular Research Foundation, New York, NY

BACKGROUND Prior studies have found that smokers with ST-segment elevation myocardial infarction (STEMI) have lower rates of mortality and adverse events. This phenomenon has been called “the smoker’s paradox.” We sought to investigate the impact of smoking