ACUTE MYOCARDIAL INFARCTION

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TCT-226

Complete versus culprit-only revascularization in patients with multi-vessel coronary disease undergoing primary percutaneous coronary intervention: An updated meta-analysis of randomized trials

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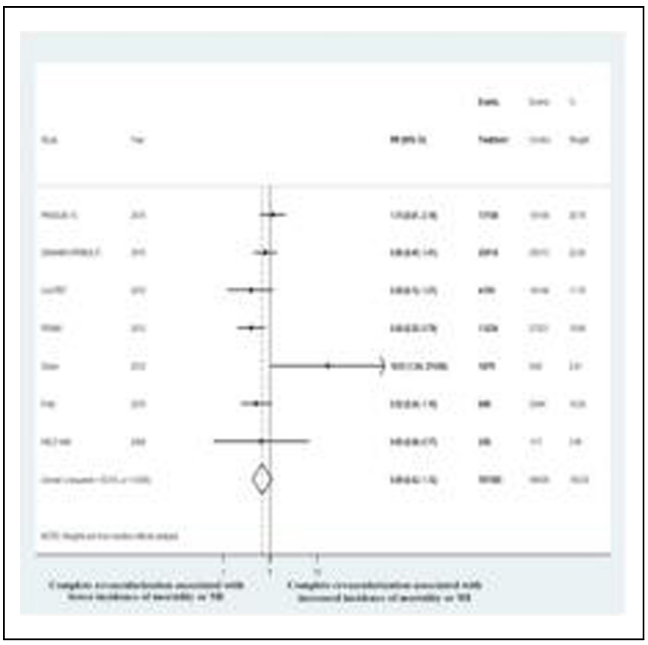
BACKGROUND Current guidelines recommend against revascularization for non-culprit significant coronary lesions at the time of primary percutaneous coronary intervention (PCI). The aim of this study was to evaluate outcomes for patients with multi-vessel coronary disease who underwent complete versus culprit-only revascularization at the time of primary PCI.

METHODS Electronic databases and major conference proceedings were searched for studies that randomized ST-elevation myocardial infarction (MI) patients with multi-vessel disease to a complete versus culprit-only revascularization strategy. The primary outcome was the combined outcome of all-cause mortality or MI. Random effects summary risk ratios (RR) were constructed using a DerSimonian-Laird model.

RESULTS A total of 7 studies with 1,939 patients were available for analysis. The median procedure time and contrast volume was higher in the complete revascularization group versus the culprit-only group (67.3 ± 5.3 versus 43.0 ± 1.1 min, p <0.001, and 284.5 ± 10.9 versus 185.7 ± 9.8 ml, p <0.001, respectively). At a mean follow-up of 25 months, complete revascularization was associated with a non-significant reduction in the risk of all-cause mortality or MI (RR 0.69, 95% confidence interval (CI) 0.42-1.12, p=0.14). Complete revascularization was associated with a reduced risk of major adverse cardiac events (MACE) (RR 0.61, 95% CI 0.45-0.81, p<0.001), due to a significant reduction in urgent revascularization (RR 0.46, 95% CI 0.29-0.70, p<0.001). The risk of major bleeding and contrast-induced nephropathy was similar with both approaches (RR 0.83, 95% CI 0.41-1.71, p=0.62, and RR 0.94, 95% CI 0.42-2.12, p=0.82).



CONCLUSIONS Complete revascularization of all significant coronary lesions at the time of primary PCI was associated with a reduction in the risk of MACE due to reduction in the risk of urgent revascularization. There was a trend towards reduced risk of all-cause mortality or MI with complete revascularization. This approach appears to be safe, with no excess major bleeding or contrast-induced nephropathy.

CATEGORIES CORONARY: Acute Myocardial Infarction

KEYWORDS Myocardial infarction, acute, Primary percutaneous coronary intervention

TCT-227

Is aspiration thrombectomy beneficial in patients undergoing primary percutaneous coronary intervention? An updated meta-analysis of randomized trials

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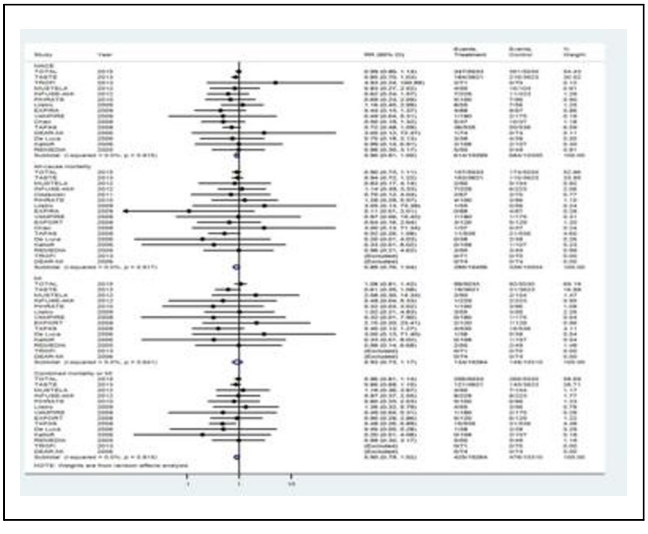
BACKGROUND Recent randomized trials have failed to demonstrate clinical benefit from aspiration thrombectomy prior to primary percutaneous coronary intervention (PCI) in patients with ST-elevation myocardial infarction (STEMI). However, it is unclear whether aspects of this procedure (i.e. co-administration of intravenous glycoprotein IIb/IIIa inhibitors or ischemic time) might modify any clinical benefits.

METHODS Electronic databases were searched for trials that randomized STEMI patients to aspiration thrombectomy prior to PCI versus conventional PCI. Summary estimates were constructed using a DerSimonian-Laird model. Random effects meta-regression for the logarithm of the relative risk (RR) for various clinical outcomes versus the average percentage of glycoprotein IIb/IIIa inhibitor usage and ischemic time were conducted.

RESULTS A total of 17 trials with 20,960 patients were available for analysis. The weighted mean follow-up duration was 3.7 months. Aspiration thrombectomy was not associated with a significant reduction in the risk of mortality (relative risk (RR) 0.89, 95% confidence interval (CI) 0.76-1.04, p=0.13), re-infarction (RR 0.93, 95% 0.73-1.17, p=0.52), the combined outcome of mortality or re-infarction (RR 0.90, 0.79-1.02, p=0.11), major adverse cardiac events (MACE) (RR 0.90, 95% CI 0.81-1.00, p=0.06), or stent thrombosis (RR 0.82, 95% CI 0.62-1.08, p=0.15). Aspiration thrombectomy was associated with a non-significant increase in the risk of stroke (RR 1.45, 95% CI 0.96-2.21, p=0.08). The figure summarizes the summary estimates for the main outcomes assessed. Meta-regression analysis did not identify a difference for the log RR of mortality, re-infarction, the combined outcome of mortality or re-infarction, and MACE with intravenous glycoprotein IIb/IIIa inhibitors (p=0.17, 0.70, 0.50, and 0.77, respectively) and with ischemic time (p=0.29, 0.66, 0.58, and 0.16, respectively). Meta-regression for the outcomes of stent thrombosis and stroke was not possible due to limited studies available for analysis.



CONCLUSIONS Aspiration thrombectomy prior to primary PCI is not associated with any benefit on clinical endpoints and might increase