

of follow up. Diabetes, the use of clopidogrel instead of new anti-platelet agents or a lower ejection fraction increased the risk of thrombosis.

**CATEGORIES CORONARY:** Stents; Bioresorbable Vascular Scaffolds

**IMAGING GUIDED PCI**

**Abstract nos: 293 - 297**

**TCT-293**

**Is it possible to predict fractional flow reserve in side branch after main vessel stenting in coronary bifurcation lesions by means of intracoronary electrocardiogram? A proof of concept FFRvs.icECG**



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**BACKGROUND** The aim of this study is to explore and compare intracoronary electrocardiography (i.c.ECG) abilities to detect acute ischemia with FFR hemodynamic assessment during PCI of bifurcation lesions.

**METHODS** A total of 39 patients were selected based on occurrence of hemodynamically significant stenosis in main vessel. Provisional stenting was the default PCI procedure. We measured FFR and i.c. ECG values in main branch and side branch before and after stenting the main vessel, which guided our side branch treatment decision. Intracoronary ECG was recorded with uninsulated proximal wire ends connected to unipolar V leads. FFR was measured using pressure wire after i.c. adenosine bolus.

**RESULTS** Overall 18 patients had side branch FFR ≤ 0.80 after stenting the main vessel and 22 patients had ST-segment elevation on icECG. From the patients with FFR ≤ 0.80, only two did not have ST-segment elevation on icECG, but both patient had FFR > 0.75 (0.77 and 0.78). After performing a receiver operated curve analysis to define a cut-off value to SB FFR after stenting, we defined a new cut-off value of 0.77 for SB FFR after stenting with c-statistic of 0.921, sensitivity of 100%, and specificity of 77%. There was a significant correlation between absolute measures of SB FFR after stenting and ST-segment elevation in millimeters on icECG (r=-0.533, p < 0.001). There was a significant difference of SB FFR values in groups with icECG STS elevation, without any overlap in variation ranges (p < 0.001). Neither STS elevation on icECG nor FFR in SB after stenting correlated significantly with ostial or minimal percentage diameter stenosis at SB, but there was significant correlation of both parameters with final SB ostial percentage diameter stenosis (SB icECG STSE: r = -0.396, p = 0.025, SB FFR: r = 0.369, p = 0.038). The only other parameter which correlated significantly with both FFR and icECG STSE was SB maximum ST-segment elevation during first balloon implantation or during stent implantation (SB icECG STSE: r = 0.798, p < 0.001, SB FFR: r = -0.455, p = 0.020).

**CONCLUSION** Intracoronary ECG has excellent ability to predict hemodynamically significant stenosis (based on critical value of FFR) occurrence at SB ostium after MV stenting. This method provides a link between a direct measure of ischemia (icECG changes) and flow limiting capacity of stenosis (FFR).

**CATEGORIES IMAGING:** FFR and Physiologic Lesion Assessment

**TCT-294**

**Optical Coherence Tomography or Intravascular ultrasound guided PCI leads to superior clinical outcomes in comparison to conventional Coronary Angiography: A network meta-analysis of randomized controlled trials**



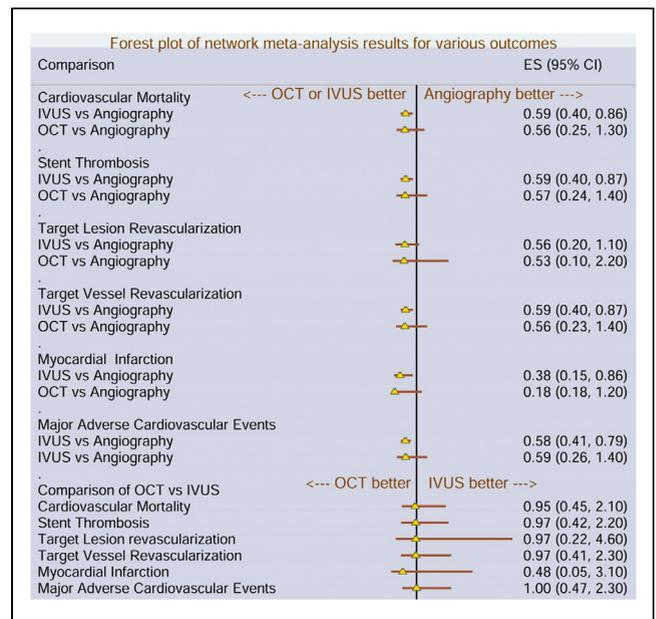
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**BACKGROUND** The optical coherence tomography (OCT) has high axial and lateral resolution which is superior to that of Intravascular

ultrasound (IVUS). There is limited data comparing OCT, IVUS and conventional Coronary angiography (CA).

**METHODS** We searched the PubMed, Embase, CENTRAL and <https://clinicaltrials.gov> for randomized controlled trials comparing CA, OCT or IVUS for optimization of percutaneous coronary interventions. The network meta-analyses or mixed treatment comparisons for each outcome were conducted using Bayesian hierarchical random-effect models and noninformative priors. Analyses were performed with the R software. Results are reported in form of risk ratios [ES] and their 95% credible intervals.

**RESULTS** Eleven trials, comprising 4, 766 patients, met inclusion criteria and were included in this analysis. Mean follow up was 15.3 months. The IVUS was associated with significantly lower risk of cardiovascular mortality, myocardial infarction, stent thrombosis and major adverse cardiovascular events compared to CA [Figure]. The OCT similarly resulted in lower risk of all aforementioned clinical outcomes but results did not cross unity because of paucity of clinical trial data. Overall, OCT or IVUS did not differ in any clinical outcome studied. There was no significant inconstancy or heterogeneity in the network.



**CONCLUSION** The OCT or IVUS guided percutaneous coronary interventions are associated with superior clinical outcomes. There is no significant difference among outcomes of OCT or IVUS optimized Percutaneous Coronary Intervention.

**CATEGORIES IMAGING:** Imaging: Intravascular

**TCT-295**

**Role of OCT in identifying sub-optimal stent positioning and predicting MACE in a head to head comparison with angiography. A CLIO-PCI II sub-study**



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**BACKGROUND** Quantitative Coronary Angiography (QCA) is still the gold standard for evaluating a correct stent deployment. This despite its limitation in recognizing those morphological features indicative of