

diabetic (25 (48.1%) vs. 38 (31.1%); $p=0.03$), had lower creatinine serum levels (1.18 (0.99-1.76) vs. 0.90 (0.80-1.03); $p<0.001$) and higher left ventricular ejection fraction (49.0 (34.5-59.3) vs. 59.0 (50.0-61.8); $p<0.001$), presented less often with chronic obstructive pulmonary disease (4 (7.7%) vs. 1 (0.83%); $p=0.01$), acute coronary syndrome (23 (44.2%) vs. 20 (16.4%); $p<0.001$) and cardiogenic shock (3 (5.8%) vs. 1 (0.83%); $p=0.04$). The repeat revascularization strategy was represented by CABG in 17 patients (9.77%), PTCA in 88 patients (50.58%) and repeat stent implantation in 69 patients (39.66%). There were no significant differences in the occurrence of the composite endpoint of death and TLR when stratified for (i) revascularization strategy (CABG vs. PTCA vs. repeat stenting); $p=0.8672$; (ii) LM lesion localization (ostial vs. body vs. distal); $p=0.7845$; (iii) stenting technique (single stent vs. T-stenting technique vs. culotte stenting technique); $p=0.2678$.

CONCLUSION The occurrence of the composite endpoint of death or TLR at 5 year follow-up in patients presenting with ISR after DES implantation for uLMCA is not negligible. We found no significant interaction between the occurrence of this composite endpoint and revascularization strategy, left main lesion localization and stenting technique. Independently of anatomical complexity and interventional strategy, relevant clinical factors were unevenly distributed between the group of patients who survived the 5 year follow-up and those who didn't and could therefore play a relevant role in determining patient outcomes.

CATEGORIES CORONARY: PCI Outcomes

TCT-420

Abstract Withdrawn



TCT-421

Prevalence and treatment patterns for in-stent restenosis: A single center report from the Duke Databank for Cardiovascular Disease



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BACKGROUND In-stent restenosis accounts for a significant proportion of PCI re-interventions. In an era of improved PCI outcomes with superior devices and medical therapy, a real world understanding of ISR prevalence and treatment patterns is necessary.

METHODS In consecutive adult patients (≥ 18 years age) undergoing PCI within the Duke Databank for Cardiovascular Disease from July 2009 - March 2015, we retrospectively characterize all unique ISR percutaneous coronary intervention (ISR PCI) in comparison to non-ISR PCI.

RESULTS Of a total 5318 unique PCI procedures (in 4466 patients), repeat PCI accounted for 2064 (39%) interventions in whom ISR PCI was performed in 400 (19%, 7.5% of all PCI procedures). In ISR PCI, the median (25th, 75th) duration from prior PCI was 1.1 (0.4, 3.8) years, with limited between-year variability. Acute MI accounted for 36% of all ISR PCI presentations. In comparison to non-ISR PCI, ISR PCI patients had comparable age and sex distribution, greater cardiovascular comorbidities, and twice as likely to have a chronic total occlusion. Relative to a reduction in overall PCI volume over time, ISR PCI rates remained relatively constant (7.5% of all PCI cases overall, annualized 4-9%, Figure). Overall, stents were utilized less frequently with ISR PCI as compared to non-ISR PCI (83.8% vs. 97.0%, $p<0.01$), however, when used, a greater proportion of drug eluting (DES) over bare metal stent is noted (81.5% vs. 59.3%, $p<0.01$)

CONCLUSION Two in every five PCIs at a single center is a repeat procedure, and one in every five repeat PCI procedures is related to ISR, performed at a median 1-year from prior PCI. Despite stenting being utilized less frequently in ISR compared to non-ISR PCI, repeat stenting is utilized in $> 80\%$ of ISR treatments. The long-term outcomes of further stenting for ISR treatment needs to be evaluated in the context of the overall existing metal burden. Treatment options that reduce the burden of metal in ISR patients are needed.

CATEGORIES CORONARY: PCI Outcomes

TCT-720

Impact of stent underexpansion and tissue patterns on recurrent restenosis after paclitaxel-coated balloon angioplasty for drug-eluting stent restenosis assessed with optical coherence tomography



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BACKGROUND Residual stenosis and the heterogeneous tissue pattern are reported to be the risk factors of recurrent restenosis after paclitaxel-coated balloon (PCB) angioplasty for drug-eluting stent (DES) in-stent restenosis (ISR). Optical coherence tomography (OCT) can assess the mechanism of restenosis. We aimed to investigate the relationship between OCT findings and angiographic outcomes after PCB for DES-ISR.

METHODS A total of 222 DES-ISR lesions undergoing OCT-guided PCB angioplasty and follow-up angiography within 1 year were examined. Pre-procedural morphological assessment of neointimal tissue at the minimum lumen area (MLA) site was performed. The MLA, intimal area (IA), and stent area (SA) before and after procedure were measured. OCT findings were compared between lesions with and without restenosis at follow-up angiography.

RESULTS Recurrent restenosis occurred in 49 lesions (22.1%). Between lesions with and without restenosis, pre-procedural MLA, IA, and SA were not significantly different between 2 groups (1.39 \pm 0.61mm² vs 1.22 \pm 0.65mm², $p=0.09$, 4.77 \pm 2.01mm² vs 4.58 \pm 2.45 mm², $p=0.56$, 6.21 \pm 2.14mm² vs 5.80 \pm 2.49 mm², $p=0.26$), but proportion of heterogeneous restenotic tissue pattern was significantly higher in the restenosis-group (11.0% vs 22.5%, $P=0.03$). After the procedure, the MLA and SA were significantly smaller in lesion with restenosis (4.90 \pm 1.76mm² vs 4.14 \pm 1.66 mm², $P=0.008$, 8.00 \pm 2.51mm² vs 7.14 \pm 2.74 mm², $P=0.04$), but the IA was similar between the 2 groups (3.01 \pm 1.62mm² vs 2.98 \pm 1.76mm², $p=0.79$). The proportion of stent underexpansion, defined as a ratio of a post-procedural stent diameter divided by a previous deployed stent size <1.0 , was significantly higher in restenosis-group (18.1% vs 33.3%, $p=0.02$)

CONCLUSION A smaller post-procedural MLA, mainly caused by persistent stent underexpansion, and the heterogeneous restenotic tissue pattern were associated with restenosis after PCB angioplasty for DES-ISR.

CATEGORIES IMAGING: Imaging: Intravascular

TAVR, STROKE, AND EMBOLIC PROTECTION

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TCT-422

Pre-procedural white matter lesion burden predicts MRI outcomes in transcatheter aortic valve replacement (TAVR): The Sentinel Trial



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