

tomography and necrotic core volume by virtual histology intravascular ultrasound.

RESULTS There was no significant difference in maxLCBI4mm (64.56 [7.74, 128.56] vs. 22.43 [0, 75.63], $p = 0.522$) or in macrophage images angle (-9.5° [-25.53, 12.68] vs -16.7° [-28.6, -4.8], $p=0.489$) between groups. There was a trend towards shorter microchannel length in the darapladib arm (0 mm, [-4.4, 0.2] vs 0.8 mm [-0.15, 1.9], $p = 0.08$). Percentage of necrotic core volume was not significantly different.

CONCLUSION Thus, chronic inhibition of endogenous Lp-PLA2 activity with darapladib was not associated with a change in plaque progression and vulnerability indices after six months of therapy and the endogenous LpPLA2 pathway may not play a direct role in the progression of early atherosclerosis in humans.

CATEGORIES IMAGING: Imaging: Intravascular

TCT-533

Optical coherence tomography comparison of fibrous plaque morphology in hemodynamically relevant intermediate coronary stenoses as determined by fractional flow reserve



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BACKGROUND Optical coherence tomography (OCT) might allow to identify lesion features reportedly increasing plaque vulnerability and subsequent risk of adverse clinical events. However, still limited data are available on the association between the functional relevance of coronary artery stenosis assessed by fractional flow reserve (FFR) and OCT-derived lesion parameters. The aim of this study was to compare plaque morphology in haemodynamically relevant vs. not relevant lesions by FFR using OCT.

METHODS Consecutive patients with intermediate grade coronary stenoses by angiography were evaluated by both FFR and OCT in this single-centre study. Stenoses were labelled hemodynamically relevant in case of the $FFR \leq 0.80$. Minimal lumen area (MLA), fibrous cap thickness (FCT), minimal cap thickness over the calcium, angle of the calcium and necrotic core within the lesions were evaluated. Analyses were performed by independent core laboratory.

RESULTS A total of 124 patients (124 lesions) were analyzed. There were 67 (54.0%) coronary artery lesions identified as hemodynamically relevant by FFR. Lesions with $FFR \leq 0.80$ presented with lower MLA (1.84 ± 0.95 vs. 2.58 ± 1.3 , $p = 0.001$) and higher maximal angle of the calcium ($141.11 \pm 78.87^\circ$ vs. $113.07 \pm 71.20^\circ$, $p = 0.038$) compared to patients with $FFR > 0.80$. No differences were found between groups in the mean (0.15 ± 0.05 mm vs. 0.14 ± 0.05 mm, $p = 0.533$) and minimal FCT (0.14 ± 0.05 mm vs. 0.13 ± 0.05 mm, $p = 0.330$), mean ($116.10 \pm 36.45^\circ$ vs. $104.48 \pm 39.31^\circ$, $p = 0.212$) and maximal necrotic core angle ($148.38 \pm 72.18^\circ$ vs. $114.35 \pm 41.57^\circ$; $p = 0.252$) as well as minimal cap thickness over the calcium (0.09 ± 0.07 mm vs. 0.10 ± 0.07 mm, $p = 0.827$). Overall, in haemodynamically relevant and not relevant stenoses similar rate of calcified (35.8% vs. 38.6%, $p = 0.736$) and lipid plaques (38.8% vs. 29.8%, $p = 0.286$) was revealed.

CONCLUSION Although haemodynamic relevance of intermediate grade lesions correlated strongly with the luminal assessment and the extent of calcification, no differences were identified in other OCT lesion parameters between relevant and not relevant coronary stenoses by FFR.

CATEGORIES IMAGING: Imaging: Intravascular

TCT-534

Triglyceride levels are an independent predictor of major adverse cardiovascular outcomes in women with nonobstructive coronary artery disease



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BACKGROUND While traditionally nonobstructive coronary artery disease (NOCAD) has been regarded as benign, recent data suggests that the majority of plaque rupture may stem from nonobstructive

plaque. Triglyceride levels have been associated with poor cardiovascular outcomes and plaque rupture. We aimed to determine whether in patients with NOCAD, elevated triglyceride levels are associated with major adverse cardiovascular events (MACE).

METHODS This is a prospective cohort study enrolling post-menopausal women who were found to have NOCAD, defined as no stenosis greater than 20%. All patients had baseline laboratory testing, and were subsequently followed for 7.8 + 4.3 years for the development of major adverse cardiovascular events by a trained nurse.

RESULTS Median age of the population was 54 (IQR 46, 62) years. A history of hypertension was present in 39%, diabetes in 6%, and hyperlipidemia in 55%. Median triglyceride level was 113 (IQR 78, 168) mg/dL in the cohort. Baseline triglyceride levels were significantly higher in patients who developed MACE when compared to those that did not [123 (IQR 100, 161) vs 109 (73, 164.5); $p=0.02$] (Figure 1). Overall, triglyceride levels were independently predictive of MACE after adjusting for age, hypertension, diabetes, estrogen use, and lipid lowering drug use (LR 4.3, $p=0.04$). In patients not taking any lipid lowering therapy, triglyceride use was independently predictive of MACE on follow-up after adjustment for age, hypertension, diabetes, and estrogen use (LR 7.7; $p=0.006$), and this was not seen in those on lipid lowering therapy.

CONCLUSION Patients with NOCAD and chest pain may have significant cardiovascular morbidity and mortality despite lack of obstructive disease. These findings suggest that triglycerides may be a marker of increased risk in women with NOCAD. Moreover, lipid lowering therapy may have a role in preventing MACE in this population. Further investigation is necessary to understand the role of triglyceride lowering medications in this population.

CATEGORIES OTHER: Womens Health Issues

BIFURCATION LESION INTERVENTION

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Intracoronary electrocardiographic parameters predict mortality rates at mid-term follow-up (up to 60 months) after stenting coronary bifurcation lesions



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BACKGROUND The aim of the study is to explore the differences in the rate of procedural ischemia after bifurcation lesion PCI detected with intracoronary electrocardiography (icECG) and its consequent adverse events.

METHODS After placement of intracoronary guidewires in the main branch (MB) and side branch (SB) the uninsulated proximal wire ends were connected to unipolar V leads. Intracoronary unipolar ECGs were recorded before, during and after stent placement and at the end of the procedure. We recorded icECG signal from SB after stent placement in MB. Finally, the coronary wire was placed in every distal vessel with reference caliber >1.0 mm, as well as in MB just below the stent, “mapping” zones for ischemia presence and distribution. Changes in ST-segment, QRS complex, R/S amplitude, during and at the end of PCI were analyzed. Provisional T-stenting was the default strategy.

RESULTS The patient population consists of 232 patients with stable/unstable angina: 67% males, mean age 65 ± 9 , diabetics 37%, 34% had previous MI, 47% previous PCI and 60% multivessel disease. Main vessel treated - LAD (74%). The true bifurcation lesions (Medina xxt) were 56.7%. SB icECG elevation after stenting the main branch was found in 68.6% of patients. After stenting MB, SB diameter stenosis $>75\%$ was found in 48.3% (51.6 had STE and 49.4 % did not have STE). On multivariate analysis independent predictor for mortality were parameter of i.c. ECG: residual icECG ST elevation in the side branch after stent placement in MB ($p=.005$), the difference in QRS complex width (pre-post PCI) in SB region, the R/S amplitude ratio of SB QRS complex.

CONCLUSION The acute ischemia detected by distribution of icECG changes in SB is predictive for mortality.

CATEGORIES IMAGING: FFR and Physiologic Lesion Assessment