Conclusions: Pre-treatment with GLP-1 protects against supply ischemic LV dysfunction & stunning, independent of coronary collaterals and metabolic substrate.

TCT-319
Pathological findings of baliosphilic foreign materials in 10 coronary artery and 3 intracranial Pipeline cases
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Background: Today percutaneous intervention is the preferred treatment for atherosclerotic disease in any part of the body, therefore there is a greater potential for embolization of material used on such devices. Several reports have shown that foreign materials such as the hydrophilic polymer can induce obstruction of small vessels with distal necrosis as well as granulomatous hypersensitivity reaction (Modern Pathology 2010; 23:921-30).

Methods: We reviewed autopsy registry files from 2005 to 2013 and identified 13 cases of foreign body hydrophilic polymer that was associated with untoward effects.

Results: There were 10 coronary (total stents = 29) and 3 intracranial interventions that at autopsy had foreign materials identified around the stent strut or in the distal bed. Overlapping stent were used in 6 cases (60%) and mean stented length was 27±18mm in the coronary artery cases. All showed the presence of foreign body baliosphilic materials in the intramural small coronary artery with or without chronic inflammation, fibrin and giant cells. Foreign body baliosphilic materials were observed around stent struts in 3 cases. Baliosphilic materials were identified in the left ventricle in 6 cases (60%), right ventricle in 3 cases (30%) and in both ventricle in 1 case (10%). Most of the baliosphilic materials were seen in the epicardial one third of the ventricle with or without myocyte necrosis. The 3 intracranial cases involved the internal carotid artery in 2 and the basilar artery in 1, all had Pipeline stent implantation and in 2 cases embolic material was identified in the area of the intracranial hemorrhage and/or in surrounding brain sections with or without inflammation. All 3 Pipeline stents in the artery showed baliosphilic material on histologic examination. In some cases the baliosphilic material was identified to be hydrogel on spectroscopic examination.

Background: Hydrogel polymers are commonly used on interventional devises for improvement of deliverability. However, unexpected embolization of baliosphilic hydrogel was identified in all 13 cases. Hydrogel is not a benign material and its use in its current form on devices should be changed.

TCT-320
The Paclitaxel-coated balloon catheter presents a therapeutic alternative in select coronary indications – Results of an analysis of the raw data of 7 prospective studies
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Background: The paclitaxel-coated balloon catheter (DCB) based on the PACCOCATH technology has yielded angiographic and clinical results superior to drug-eluting stents in situations like bare-metal in-stent restenosis and a trend towards better outcome in small coronary vessels and side branches of coronary bifurcations. However, unexpected embolization of baliosphilic hydrogel was identified in all 13 cases. Hydrogel is not a benign material and its use in its current form on devices should be changed.

TCT-321
Impact of Diabetes Duration on Long-term Clinical Outcomes following Coronary Revascularization: A Cohort Study From China’s Largest Cardiac Center
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Background: Prior studies implicated that a longer diabetes duration might raise coronary artery disease (CAD) risks and predict mortality. Few studies have addressed its predictive value in patients undergoing coronary revascularization. Thus, we aimed to evaluate the impact of diabetes duration on long-term clinical outcomes after primary percutaneous coronary intervention (PCI) or coronary artery bypass grafting (CABG).

Methods: A total of 820 diabetic patients treated for stable CAD were consecutively included in this retrospective single-center study. With a median follow-up of 3.5 years, patients’ outcomes were assessed by major adverse cardiac events (MACEs) and the incidence of nonfatal stroke. MACEs were defined as the need for revascularization, non-fatal myocardial infarction, or cardiovascular death.

Results: At 3-year follow-up, MACE rate was significantly higher in CABG-treated patients (13.30% vs. 7.02%, p=0.001). Multivariate Cox regression analysis revealed that a longer diabetes duration (≥ 5 years) was an independent predictor for the incidence of MACEs after PCI (HR=1.89, 95% CI 1.08–3.37, p=0.03), but not CABG (0.21–2.93, p=0.73). In addition, while CABG was superior to PCI in patients with diabetes duration ≥ 5 years (17.30% vs. 7.21%, p=0.003), no difference was observed in those < 5 years (9.36% vs. 6.86%, p=0.18). Notably, no differential treatment effect according to the category of SYNTAX score was found in patients with diabetes duration ≥ or < 5 years (p=0.79 and p=0.15, respectively). In contrast to MACEs, nonfatal stroke was more frequent in CABG-treated patients (4.36% vs. 1.13%, p=0.02), with no significant interaction between diabetes duration and treatment strategies on the outcome (p=0.58).

Conclusions: For stable CAD patients with a longer diabetes duration (≥ 5 years), CABG was superior to PCI in that it significantly reduced rates of MACEs, despite of a higher rate of nonfatal stroke. However, for those with a shorter diabetes duration (< 5 years), PCI was more preferable than CABG, which was independent of the SYNTAX stratification, as it markedly reduced rate of nonfatal stroke without significantly increasing the risk of MACEs.

TCT-322
Utility of the Residual SYNTAX Score In Patients With Diabetes Mellitus After Percutaneous Coronary Intervention
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Background: Both diabetes mellitus (DM) and incomplete revascularization (IR) are associated with a poor prognosis after percutaneous coronary intervention (PCI). We sought to quantify the extent and impact of IR following PCI using the residual SYNTAX score (rSS) in patients (pts) with and without DM.

Methods: The rSS was determined by an angiographic core laboratory in 2672 pts from the ACUITY trial. Pts were stratified by rSS tertiles. A rSS ≤28 was defined as low-risk coronary disease, whereas an rSS >28 was considered high-risk coronary disease.

Results: Overall, 770 (28.3%) pts had DM and 1,902 did not. The mean rSS was 4.9±6.6 and 4.1±6.5 in DM and non-DM pts respectively (p=0.004). CR was achieved in 35.0% of DM and 42.5% of non-DM pts (p=0.004). As rSS increased, 1-year MACE was significantly higher in non-DM but not DM pts (Figure). DM pts also had higher incidence of death (3.0% vs. 0.9%; p=0.01) and MACE at 1-year (22.5% vs. 14.1%; p=0.001) than non-DM pts, even when CR was achieved.
Conclusions: Complete revascularization after PCI was achieved in less than 50% of pts with ACS, and was less frequent in DM compared to non-DM pts. Patients with DM had higher rates of adverse outcomes compared to non-diabetics even when CR was achieved, and the extent of IR was less of a prognostic factor in DM compared to non-DM pts. Further strategies are required to improve the prognosis in high-risk DM pts.

TCT-323
Higher Adverse Clinical Event Rates in Young African American Women Undergoing Percutaneous Coronary Intervention: Results from the NHLBI Dynamic Registry
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Background: Prior studies suggest that younger women are at higher risk for major adverse events following PCI; however, little is known about the association between race and adverse outcomes in this population.

Methods: We evaluated 3797 women undergoing PCI in the NHLBI Dynamic Registry and compared 1 year outcomes in African American (AA) women (<50 years (n=101), AA women ≥50 years (n=537), non-AA women <50 years (n=293), and non-AA women ≥50 years (n=2866) old.

Results: AA women were more likely to have hypertension, renal disease, and women: 1.1%, older non-AA women: 5.8%, p value < 0.01. Younger AA women had the highest rate of MACE (young AA women: 28.6%, older AA women: 18.4%, non-AA women: 22.7%, older non-AA women: 23.3%, p=0.01) at 1 year. While the rate of MI was lower (young AA women: 3.6%, older AA women: 5.8%, non-AA women: 7.2%, older non-AA women: 5.4%, p=0.05), young AA women had a higher incidence of mortality than non-AA women of similar age (young AA women: 5.8%, older AA women: 5.6%, young non-AA women: 5.1%, older non-AA women: 5.8%, p=0.009) at 1 year. Young women also had higher rates of repeat revascularizations compared to older women, with young AA women having the highest rate of CABG and young non-AA women having the highest rate of repeat PCI at 1 year.

Conclusions: Young AA women experienced higher rates of major adverse events within 1 year of PCI, including a mortality rate four times higher than non-AA women of similar age. It is plausible that our findings are due to a higher prevalence of non-cardiac comorbidities; however, secondary prevention measures and practice patterns post-PCI need to be explored to ensure this population is receiving optimal cardiovascular care following PCI.

TCT-324
Survival after percutaneous coronary intervention (PCI): Comparison of patients with or without Left Anterior Descending stenosis in elective percutaneous coronary intervention for left main disease and triple vessel disease
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Background: Patients with significant left anterior descending artery (LAD) disease, particularly when the proximal segment is involved, considered to have an adverse cardiac prognosis. It is reported that proximal LAD stenosis (P-LAD) have higher rates of restenosis than that in other coronary segments after angioplasty, as well as after stenting. However, the long term results of patients with P-LAD in complex coronary artery disease (CAD) have not yet been adequately studied. Our study aimed to find out if the long term mortality of patients with P-LAD among the cohort with three vessel diseases (TVD) and/or left main stenosis (LMS) higher than that without P-LAD.

Methods: Patients undergoing elective PCI with drug eluting stents (DES) for TVD and/or LMS have been included in this study. Important exclusion criteria were previous coronary artery bypass surgery, high-risk acute coronary syndrome including myocardial infarction. All-cause death was the primary endpoint of this analysis.

Survival of the patients was assessed by systematic patient contacts at one, two and three years. In all patients we calculated SYNTAX score (SSc) to define the anatomic complexity of coronary artery disease and logistic EuroScore (LES) to determine the clinical risk.

We used the Kaplan-Meier method to estimate the mortality. In addition, we calculated adjusted and unadjusted hazard ratios by Cox models.

Results: 1,262 patients (mean age 67.73±10.33 years, 24% female, median SSc 21.34±8.47) met the entry criteria. Median follow-up was 1197±465.05 days. P-LAD was present in 364 patients (28.84%). SSc in group with P-LAD was higher (24.69±8.24 vs. 20.8±8.36, p<0.01). There was no significant difference of one, two and three-year mortality between the group with and without P-LAD (3.0±0.9% vs. 2.9±1.0% vs. 2.5±1.0% vs. 2.0±1.0%, p=0.67; 0.64; 0.69). Hazard ratio for mortality in the presence of P-LAD was 1.08 (95% CI 0.76–1.54, p=0.67). Even after adjustment for SSc and LES in multivariable analysis, P-LAD was not predictive for mortality (adjusted HR 1.34 [0.94 – 1.94], p=0.11).

Conclusions: P-LAD as single criterion has no significant prognostic relevance in patients with complex CAD.

TCT-325
Revascularization Heart Team Favors Percutaneous Coronary Intervention in Patients with Intermediate and High SYNTAX when Demographic and Clinical Predictors are Included.
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Background: Randomized controlled trials in patients with complex ischemic heart disease (CHHD) suggest that patients with an intermediate/high SYNTAX score benefit from surgical revascularization. However its impact in decision making in routine clinical practice is unknown. Using a multidisciplinary Heart Team (MHT) we set out to evaluate therapeutic decision making in patients with complex IHD using SYNTAX scores combined with Society of Thoracic Surgeons (STS)-derived clinical variables.

Methods: MHT meetings consisting of interventional cardiologists and cardiac surgeons were convened to discuss management of patients with CHHD. Angiographic SYNTAX and STS risk were calculated and grouped according to risk scores Figure 1. Final recommendations on revascularization were based on consensus that factored angiographic and clinical characteristics.

Results: 201 consecutive patients underwent MHT review. Mean(SD) STS risk between groups showed; Group 1:1.4%(1.02), Group 2:7.4%(1.8), Group 3:3.1%(1.2) and Group 4:9.9%(4.8) (p<0.0001). Mean(SD) SYNTAX score showed: group 1:1.54(4.8), Group 2:1.64(4.7), Group 3:2.97(6.1), and Group 4:3.24(6.1) (p<0.0001). MHT recommendations are outlined in Table.