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 basophilic 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 basophilic material in the intramural small coronary artery with or without chronic inflammation, fibrin and giant cells. Foreign body basophilic materials were observed around stent struts in 3 cases. Basophilic materials were identified in the left ventricle in 6 cases (60%), right ventricle in 3 cases (30%) and in both ventricles in 1 case (10%). Most of the basophilic 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 basophilic material on histologic examination. In some cases the basophilic 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 basophilic 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 PACCATH06 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. The sample size of each individual study, however, was relatively small.

Methods: To strengthen the evidence, the raw data of all 401 patients (63.3±10.5 years, 74.3% men) with 446 stenoses that were treated with SeQuentTM Please DCB were analyzed in all 13 cases.

Results: DCBonly compared to BMS-ISR did not show statistically different results for late lumen loss (LLL) (0.19±0.59mm vs 0.23±0.53mm), LLLIndex (0.15±0.10 vs 0.16±0.56), target lesion revascularization (TLR) (48/2% (4.9%) vs 61/17 (5.1%), lesion related myocardial infarction major and target lesion thrombosis (both parameters in both groups 0), cardiac death (0/8% (0% vs 1/17 (0.9%), and major adverse cardiac events (MACE) (4/8 (4.9%) vs 6/117 (5.1%)). In DCB combined with BMS, TLR (16/202 (7.9%), lesion related thrombosis (7/202 (3.5%)), target lesion related thrombosis (5/202 (2.5%), and cardiac death (3/202 (1.5%)) were statistically at a different compared to DCB only in de-novo lesions while in DCB+BMS the LLL (0.55±0.65mm) was significantly (p<0.001) greater as were LLLIndex (0.34±0.41 vs 0.3001) and MACE 25/202 (12.4%) (p=0.08). The 1-year MACE rates were independent from gender, and the cardiovascular risk factors smoking, hyperlipidemia, obesity, hypertension, and diabetes.

Conclusions: Angiographically, DCBonly was superior to its combination with bare metal stents whereas MACE data trended superior.

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. However, 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 PCI-compared with 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 1.08-3.34, 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-than PCI-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 incidence 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 with moderate and high-risk acute coronary syndromes (ACS) undergoing PCI from the ACUITY trial. Pts were stratified by rSS tertiles. A rSS=0 was defined as complete revascularization (CR). One-year major adverse cardiovascular events (MACE) according to rSS were examined in DM and non-DM pts.

Results: Overall, 770 (28.8%) 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.