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Abstract Withdrawn

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Impact of Glycemic Control on Cardiovascular Outcomes in Secondary Prevention of Diabetic Patients after a First Coronary Event. Insights from an international registry including 1,036 patients.

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Background: The effect of glycemic control on major cardiovascular (CV) and cerebrovascular events (MACCE) after percutaneous coronary intervention in patients with Type 2 diabetes (DM) remains controversial.

Methods: We report an international, observational study on DM patients with coronary artery disease eligible for percutaneous coronary intervention. Patients with Type 1 diabetes and ST elevation myocardial infarction (MI) were not included. Clinical follow up and glycemic control as assessed by glycosylated hemoglobin (HbA1c) were obtained at year 1.

Results: A total of 1,036 patients aged 61.9 (+/−0.3) years were included. CV risk factors included smoking, hypercholesterolemia, hypertension and overweight in 49.7%, 78.2%, 76.6% and 47.6%, respectively. Clinical presentation included acute coronary syndrome, silent ischemia and stable angina in 22%, 15.6% and 30.8%, respectively. 1,687 coronary stenosis were treated with at least one Xience everolimus stent (EES) in the the left main (n=52), the left anterior descending artery (n=744), the left circumflex artery (n=506) or the right coronary artery (n=538). The mean length and diameter of the implanted EES were 19.0±4.2mm and 2.88±0.01mm, respectively. MACCE was observed in 95 (9.2%) patients: CV death (n=16 (1.5%), myocardial infarction (n=8 (0.8%)), ischemia driven revascularization (66 (6.4%)) and ischemic stroke (n=5 (0.5%)). The MACCE rate was not significantly different among the low, intermediate and high tertile groups of HbA1c.

Conclusions: The use of EES in a large population of DM2 patients is associated with a low MACCE rate at 1 year. No beneficial effect of good glycemic control as assessed by HbA1c on MACCE was observed in this “all-comer” diabetic population at 1 year.

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Cardioprotection with Glucagon-like Peptide-1 (GLP-1) may occur independent of coronary collaterals and metabolic substrate utilisation

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Background: Mechanisms for cardioprotection with Glucagon-like peptide-1 (GLP-1) are unclear. Human studies have mainly assessed the effects of GLP-1 when administered after an ischemic insult, when reperfusion injury pathways have been activated. There is however, limited data investigating the impact of GLP-1 on supply ischemia when given before PCI.

Methods: 30 patients with normal LV function were studied during elective LAD PCI. Pressure-volume loops were recorded using a LV conductance catheter at baseline, during 1 min low-pressure balloon occlusion (BO1), after 30 mins recovery, and during a 2nd 1 min balloon occlusion (BO2). Patients were randomized to receive either IV saline (control) or GLP-1 (7.36; 1.2 pmol/kg/min) given before BO1. Coronary wedge pressure (Pw) & simultaneous coronary artery/sinus glucose samples were measured during BO1. Data were analyzed offline by a blinded reviewer for measures of systolic (dP/dTmax) & diastolic (dP/dTmin) function.

Results: Compared with controls, pre-treatment with GLP-1 reduced LV dysfunction during BO1 (Δ dP/dTmax -5.7% vs -15.3%, p=0.04; Δ dP/dTmin -10.4% vs -21.8%, p=0.04), improved recovery at 30 mins (Δ dP/dTmax +4.8% vs -12.2%, p=0.03) & reduced LV dysfunction after BO2 (Δ dP/dTmax -7.7% vs -25.3%, p=0.02; Δ dP/dTmin -15.3% vs -30.3%, p=0.05). Collateral recruitment (Pw 24.4 vs 20.3mmHg, p=0.36; pressure-derived collateral flow index 0.19 vs 0.17, p=0.57) & glucose utilisation was similar in both groups.

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Outcome and reproducibility of Heart Team decisions: a single center experience

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Background: A multidisciplinary team (MDT) approach is now a class IC recommendation in the European and American guidelines for decision-making in patients with complex coronary artery disease (CAD). The Heart Team (HT) consists of at least one interventional cardiologist, a cardiac surgeon and a non-invasive cardiologist. The aim of this study was to evaluate the implementation and consistency of HT decisions in a tertiary cardiac centre.

Methods: We prospectively evaluated our data derived from 51 MDT meetings held between April 2012 and April 2013. A subset of cases was randomly selected and represented with the same clinical data, at least 6 months after the initial decision in order to evaluate the consistency of initial decisions.

Results: Amongst patients discussed (n=399) 23% were females. An average of 8 Patients were discussed each week. This was attended by a median number of 1 non-interventional cardiologist, 3 intervention cardiologists and 3 cardiac surgeons. The most common HT decisions included continued medical management (30%), coronary artery bypass grafting (CABG) (26%) and percutaneous coronary intervention (PCI) (17%). Other decisions, such as further assessment of symptoms or evaluation with dobutamine stress echo, cardiac MRI, repeat coronary angiogram, pressure wire studies (PWS), intravascular ultrasound (IVUS) or exercise treadmill test (ETT) were made in 27% of the cases discussed. HT decisions were implemented in 93% of the cases. The most common reasons for non-implementation were unrecognised comorbidities (n=11), change of symptoms (n=7), patient refusal (n=7) and death (n=4). On re-discussion of the same data (n=25) within a median period of 9 months 20% of decisions (n=5) differed from the original HT recommendation.

Conclusions: The Heart Team is a robust process in the management of patient with complex CAD and decisions are largely reproducible. Although outcomes are successfully implemented in the majority of the cases, it is important that all clinical information is available during discussion and patients’ preference is taken into account.

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Increasing Utilization of Percutaneous Coronary Interventions from 1988 to 2006 in Patients with Type 2 Diabetes Mellitus in the United State

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Background: Percutaneous coronary interventions have increased in recent years in high risk patients. The goal of this study was to evaluate this trend in type 2 diabetes (DM) patients undergoing PCI in the United States.

Methods: The Nationwide Inpatient Sample (NIS) database was utilized to calculate the age-adjusted incident rate of PCI performed in type 2 DM patient from 1988 to 2006 in the United State using ICD-9 coding for PCI and type 2 DM.

Results: A total population of 504371 type 2 DM patients underwent PCI between 1988-2006 were available for our study over the age of 40. We found that age adjusted rate of PCI performed in type 2 DM patient gradually increased with highest rate of 70.1 per 100,000 in 2006 (p=0.01). Non-DM patient had similar increase in PCI over the years studied.

Conclusions: PCI performed increasingly in type 2 DM patients in last few decades. The cause of this trend is not known but is most likely related to PCI being performed more frequently in high risk patient or related to increasing incidence of PCI in the population.