TCT-477
Clinical characteristics, procedural and clinical outcome of patients treated with PCI for definitive stent thrombosis: a 12 years single centre experience
Eduard Fernandez-Noferrias¹, Oriol Rodriguez-Leor², Xavier Carrillo³, Josepa Mouri⁴, Carlos Labata⁵, Carolina Olieté⁶, Carmen Rivas⁷, Antoni Bayes-Genis⁸
¹HU Germans Trias i Pujol, Badalona, Spain, 2Hospital Germans Trias i Pujol, Badalona, Spain

Background: There are limited data on treatment and long-term clinical outcome after definitive (angiographically confirmed) stent thrombosis (ST).

Methods: Retrospective analysis of baseline characteristics and procedural and clinical outcomes in patients with angiographically confirmed ST (AR classification) from a cohort of 8069 consecutive unselected patients treated with PCI in a single centre (June 2000-December 2012).

Results: One hundred thirty consecutive patients with definite ST were included in the analysis (1.6%). a) Main baseline characteristics: male sex 82.3%; age 63±13; diabetes 38.5%; previous renal failure 23.1%; previous AMI 69.2%, peripheral arterial disease (PAD) 16.6%. Clinical presentation was ST-segment elevation myocardial infarction (STEMI) in 22.4% cases, non-STEMI in 49.4% cases and unstable angina in 28.2% cases. b) Main procedural characteristics: BbIIb/IIIa inhibitors were used in 66.2%; IVUS guidance in 44.6%; manual thrombectomy in 70.8%; new stent implantation in 74.6%. c) Main clinical outcomes: inhospital mortality was 9.2% and one-year mortality was 12.3%. Two patients (1.5%) experienced recurrent ST on follow-up. Type of previously implanted stent (DES or BMS), time of ST (acute, subacute, late or very late), vessel treated and DES implantation for ST treatment were not related to mortality on univariate analysis. Predictors for one-year mortality were age, PAD, cardiogenic shock on admission and multivessel disease.

Conclusions: In a cohort of real-life consecutive patients, PCI for ST was relatively infrequent. Patients presenting with ST had high comorbidity levels. Up to one third of patients had very late ST. Nearly half of the PCI were IVUS-guided. One-year mortality and recurrent ST on follow-up was lower than previously reported; this may be explained by the high rate of IVUS-guided PCI.

TCT-478
Effect of different drug-eluting stent design on in-stent restenosis and stent thrombosis
Oskar Angerläs, Per Albertsson, Christian Dowreck, Inger Hardalsson, Dan Ioanes, Berglind Libungan, Gothenburg, Sweden, 2Department of Cardiology, Sahlgrenska University Hospital, GOTHENBURG, Sweden, 3Department of Cardiology, Sahlgrenska University Hospital, GOTHENBURG, GOTHENBURG, Sweden, 4Department of Cardiology, Södra Älvsborg Hospital, BORÅS, GOTHENBURG, Sweden, 5Department of Cardiology, Skaraborg Hospital, SKOVDE, GOTHENBURG, Sweden, 6Department of Cardiology, NU-hospital group, TROLLHÄTTAN, GOTHENBURG, Sweden

Background: Endeavor Resolute drug-eluting stent (ER-DES) has been used worldwide in many cath labs as standard DES during the last years. FDA have recently approved Resolute Integrity stent (RI-DES) which is based on different stent platform. There is little clinical data in regard to safety and efficacy outcomes between these two stents after a direct comparison in unselected patients. Our aim was to compare ER-DES with RI-DES stent in regard to occurrence of in-stent restenosis and stent thrombosis in unselected consecutive patients.

Methods: Information was obtained from the SCAAR registry (Swedish Coronary Angiography and Angioplasty Registry) for the procedures performed in Västra Götaland County in Western Sweden. The database contains information about all consecutive procedures performed at five PCI centers with approximately 3000 PCI/year. ER-DES was used from 2008 with complete switch in the whole region to RI-DES in 2011. All procedures performed between 2008-2013 for stable angina, unstable angina, non-STEMI and STEMI were included in the analysis. The two stents were compared using propensity score-adjusted multilevel Cox proportional-hazards regression with stents as primary observation units. The following confounders were included in the calculation of propensity score: age, gender, indication for PCI, smoking habits, hypertension, diabetes, hyperlipidaemia, stent diameter, stent length, stenosis class and procedural success.

Results: Between 2008 and 2013, 614 ER-DES and 1858 RI-DES were implanted to 929 patients in 1327 procedures. There were 61 events in total of which 24 cases were in-stent restenosis and 25 cases were stent thrombosis. The use of RI-DES was associated with decreased risk for in-stent restenosis/stent thrombosis at one-year (HR 0.42; 95% CI 0.21–0.86; P=0.017).

Conclusions: In this registry study RI-DES shows a lower frequency of in-stent restenosis and stent thrombosis compared to ER-DES. Improvement in DES stent design may provide substantial clinical benefit to the patients undergoing PCI. “Real world” registries are an important tool in continuous evaluation of new devices and interventions and for support in decision-making within health-care systems.

TCT-479
Impact of Angiographic Patterns (Focal vs. Diffuse) of Resistant In-stent Restenosis on Clinical Outcomes
Kleenthis Theodoropoulos¹, Marco G. Mennuni², Omar A. Meelu³, Samantha Sartori⁴, Melissa Agneta⁵, Pedro R. Moreno⁶, Prakash Krishnan⁷, Jason Kovacic⁸, Usman Baber⁹, George Dangas¹⁰, Roxana Mehran¹¹, Samin Sharma², Annapoorna Kini¹²
¹Mount Sinai Medical Center, New York, NY, ²Istituto Clinico Humanitas, Rozzano, Milan, Italy, ³The Icahn School of Medicine at Mount Sinai, New York, NY, ⁴Mount Sinai Medical Center, New York, NY, ⁵The Icahn School of Medicine at Mount Sinai, New York, NY, ⁶Mount Sinai School of Medicine, New York, NY, ⁷Mount Sinai School of Medicine, New York City, NY, ⁸Mount Sinai, New York, NY, ⁹Mount Sinai Hospital, New York, NY, ¹⁰Cardiovascular Institute, Mount Sinai Medical Center, New York, USA, ¹¹New York City, NY

Background: Drug-eluting stents (DES) reduced restenosis. Though rare, in-stent restenosis (ISR) followed by a new ISR (resistant ISR, R-ISR) represents a challenging PCI complication. Whether angiographic patterns of R-ISR are indicative of clinical outcomes is unknown.

Methods: Resistant ISR (R-ISR) was defined as the 2nd episode of ISR after treatment of the 1st ISR. We reviewed 201 consecutive patients with DES pre-treatment with R-ISR from 2003 to 2011. Angiograms were reviewed by a core lab to the patients undergoing PCI. “Real world” registries are an important tool in continuous evaluation of new devices and interventions and for support in decision-making within health-care systems.

Results: In 201 patients, 77% had focal and 23% diffuse R-ISR. Focal intrastent (IC) and diffuse intrastent (IB) were prevalent patterns of focal and diffuse R-ISR (50% and 42% respectively). Groups were balanced with similar demographics and angiography. Within groups original implanted stents were SES (44% vs 56%), PES (32% vs 22%), ZES (0% vs 8.5%), and EES (23% vs 14%) respectively. At 1 year, mortality was higher in diffuse R-ISR patients (9% vs 4.5%, p=0.06), but MACE was comparable between groups (25% vs 29%, p=0.59, Figure 1). Correlates of revascularization were R-ISR within 1-year of the index procedure (HR: 1.8, 95% CI 0.99-3.3, P=0.05) and female sex (1.62 95% CI 1.62-2.71, P=0.06).

Conclusions: Resistant ISR is a rare complication of PCI even with newer DES. Though MI, TVR/TVF, and MACE did not differ significantly, those with diffuse R-ISR patterns had 2-fold the mortality rate than those with focal R-ISR. In the DES era, diffuse R-ISR still results in worse clinical outcomes.