Impact of gender on adverse cardiac events in patients with large anterior myocardial infarction: Results from the INFUSE-AMI trial

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Background: Women have less favorable outcomes compared with men after ST-segment elevation myocardial infarction (STEMI) for as yet unclear reasons.

Methods: The INFUSE-AMI trial randomized patients with STEMI due to proximal or mid LAD occlusion to intra coronary bolus abciximab (ClearWay RX catheter) vs. no abciximab, and to thrombus aspiration (Expert) vs. no aspiration. We compared women and men by sex and age at infarct size as % of LV mass assessed by magnetic resonance imaging at 30 days, angiographic and electrocardiographic markers of reperfusion and 30-day major adverse cardiovascular events (MACE) according to gender.

Results: Among 452 patients, women (118, 26.1%) were older, and had a higher prevalence of hypertension, hyperlipidemia and diabetes. They were more likely to present with ACS (angina(24.0%), stable angina(20.3%) or LV dysfunction(3.3%). Follow-up was obtained in 302 pts, 126 women and 176 men.

Conclusions: In INFUSE-AMI women compared to men with anterior MI had longer times from presentation to PCI and higher unadjusted MACE rates which were attributable to baseline differences in risk factors and delayed treatment times, but not to different infarct size.
TCT-369
Comparison of Target Lesion and Vessel Revascularization in Women of Different Age Groups after Percutaneous Coronary Intervention for Acute Coronary Syndrome
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Background: Women have a lower risk for coronary artery disease (CAD) and present at an older age with multiple comorbidities. Young women who present with CAD, albeit uncommon, likely reflect accelerated progression of atherosclerosis. It is unclear whether presentation of CAD in women younger than 55 translates into higher rates of target lesion revascularization (TLR) and target vessel revascularization (TVR) post percutaneous coronary intervention (PCI). We compared rates of TLR and TVR at 1 year post PCI in women younger and older than 55.

Methods: 2219 women who underwent PCI at Washington Hospital center for an acute coronary syndrome were divided by age into four groups (less than 35: 14 patients, 35-45: 83 patients, 45-55: 295 patients, and older than 55: 1827 patients). TLR and TVR were recorded at 1 year (2030 and 2044 patients respectively).

Results: There were no significant differences in the use of stents, use of drug eluting stents (DES), stent number, length or diameter in the different age groups. There were no differences in post PCI care with anti-platelet and statin therapy. Rates of TLR and TVR were significantly different among the various age groups with higher rates in younger groups.

Conclusions: Despite comparable rates of stent use, including DES, and comparable post PCI medical management, women in the younger age groups had higher rates of TLR and TVR at 1 year post PCI. Coronary artery disease in younger women likely reflects a more accelerated progression of the disease warranting close follow up.

TCT-370
Outcomes According to Sex Following Unprotected Left Main Stenting With Drug-Eluting Stents: The Milan Experience
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Background: Drug-eluting stents (DES) for the treatment of unprotected left main coronary artery (ULMCA) disease have been shown to be safe and effective. The aim was to assess clinical outcomes according to sex in this subset of patients.

Methods: All consecutive patients from our single-center prospective registry treated for ULMCA stenosis with both first- and new-generation DES from January 2005-June 2010 were analyzed. The study objectives were all-cause mortality, major adverse cardiac events (MACE), target vessel revascularization (TVR) and target lesion revascularization (TLR) at 2-years clinical follow-up.

Results: A total of 173 patients were included in the analysis. Notably, only 17.9% were females. No differences were observed between genders in baseline clinical characteristics. Regarding lesion characteristics, males were more likely to have distal ULMCA lesions affecting the bifurcation (83.8% vs. 61.3%; p=0.005) and undergo a 2-stent strategy (50.4% vs. 25.8%; p=0.013). In addition, males were significantly more likely to undergo paclitaxel-eluting stent implantation (34.5% vs. 9.7%; p=0.006). At 2-years clinical follow-up, there was a trend for increased all-cause mortality in females (12.9% vs. 4.2% vs. p=0.061). Conversely, there were no significant differences in TLR between females and males respectively (6.5% vs. 6.3%; p=0.981), TVR (22.6% vs. 14.1%; p=0.238), MI (1.2% vs. 1.4%; 0.483), MACE (29.0% vs. 16.9%; p=0.119). Moreover, there were 4 definite/probable stent thrombosis, all in first-generation DES, however this was not affected by the sex of the patient (3.2% vs. 2.1%; p=0.709).

Conclusions: Treatment with DES for ULMCA appears safe and effective regardless of sex. Despite more distal bifurcation lesions amongst males, there was a trend for a higher all-cause mortality amongst females which clearly needs to be assessed with larger patient numbers.

Heart Failure, LV Dysfunction, and Shock
Hall D
Tuesday, October 23, 2012, 8:00 AM–10:00 AM
Abstract nos: 371-391

TCT-371
First Clinical Evaluation of a Novel Percutaneous Right Ventricular Assist Device: The Impella RP
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Background: Right Ventricular Failure (RVF) is a critical problem associated with a high mortality that occurs in a variety of settings including post-cardiotomy cardiogenic shock, cardiac transplant, right ventricular infarction, pulmonary embolism and after left ventricular assist device (LVAD) implantation. Temporary mechanical right ventricular support could be a reasonable alternative treatment option in these patients. We report here the initial first clinical evaluation of a novel minimally invasive percutaneous right ventricular assist device.

Methods: Impella RP is a new, minimally invasive, 3D catheter-based percutaneous microaxial pump that is designed for short-term right ventricular support. The device requires single vascular access through a sheath in the femoral vein. The device (22 Fr pump mounted on an 11 Fr catheter) is positioned under fluoroscopic guidance using a 0.025” wire. It aspirates blood from the inferior vena cava and expels it into the pulmonary artery at the maximum rate of up to 4.4 liters per minute. The device requires low anticoagulation regimen.

Results: A First in Man pre-market clinical feasibility evaluation has been initiated at several sites in Canada and Europe in patients experiencing right ventricular failure in different clinical settings. Indications for use at the time of this submission included RVF post heart transplant