

**CRT-200.91**  
**Long-Term Use of Dual Antiplatelets for the Secondary Prevention of Atherothrombotic Events: Meta-analysis of Randomized Controlled Trials**

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**BACKGROUND** The potential benefit of long-term dual antiplatelet therapy (DAPT) for secondary prevention of atherothrombotic events in patients with coronary artery disease (CAD) is unclear. Data from different randomized controlled trials (RCT) using different agents in different subgroups showed inconsistent results.

**OBJECTIVE** The goal of this study was to evaluate the efficacy and safety of long term DAPT for secondary prevention.

**METHODS** We performed a systematic review and meta-analysis from RCTs that tested different prolonged durations of DAPT for secondary prevention. Long term DAPT (L-DAPT) arm was defined as those receiving DAPT for more than 12 months. The long-term aspirin arm (L-ASA) was defined as those receiving either long-term aspirin monotherapy or DAPT for 6 months or less.

**RESULTS** Our systematic literature search identified 2456 articles, of which 6 met the inclusion criteria for this analysis. These 6 RCT included a total of 47,734 patients (27657 L-DAPT and 20077 L-ASA). The use of L- DAPT was associated with a significant decrease in composite of death, myocardial infarction (MI) and stroke (6.08% vs. 6.71%; Odd Ratio OR= 0.86 [0.78 -0.94]; P=0.001). The reduction was mainly driven by a reduction in MI, but not in death, cardiac death or stroke. This reduction of death, MI and stroke was mainly noticed in patients with prior MI (6.32% vs. 7.28%; OR= 0.86 [0.79 -0.94]; P <0.001) but in those who had PCI with no MI. The reduction was seen with post PCI patients with prasugrel (3.10% vs. 5.90%; OR= 0.53 [0.37 -0.74]; P<0.001) and only in those with prior MI with clopidogrel (4.89% vs. 6.28% OR= 0.77 [0.66 -0.9]; P<0.01) and ticagrelor (6.95% vs. 5.72%; OR=0.84 [0.75 -0.93]; P=0.001). Long-term use of DAPT was associated with significant increase in major bleeding (1.47% vs. 0.88%; OR= 1.65 [1.23 - 2.21]; P=0.001).

**CONCLUSION** Long-term use of DAPT for secondary prevention is associated with lower risk of death, MI and stroke in patients with prior MI, but it is associated with increased risk of bleeding. Prolonging DAPT requires careful assessment of the trade-off between ischemic and bleeding complications and should probably be reserved for those with highest risk for atherothrombotic events.

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**Gender Disparities in ST-Elevation Myocardial Infarction Care and Outcomes in Emerging Countries: A Global Lumen Organization for Women (GLOW) Initiative and Call to Action**

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**BACKGROUND** Over the past decade, outcomes for patients with acute ST-segment-elevation myocardial infarction (STEMI) have been improving in the developed world - mainly, USA and Europe. This is as a result of an organized revolution in AMI (Acute Myocardial Infarction)-care in general and STEMI-care in particular. Concurrently and disturbingly, the AMI burden in the developing world has been steadily rising. The aim of this study is to assess gender differences in medical and invasive management, morbidity, and mortality in STEMI patients in a wide array of developing countries. Additionally, this GLOW initiative aims to highlight important root causes, beyond medical issues, that underlie critical discrepancies (societal, religious, cultural and economic). GLOW also serves as a call-to-action to

replicate the success of pivotal STEMI initiatives in the USA and Europe (Mission: Lifeline, Stent for Life) in emerging countries.

**METHODS** We performed a systematic literature search and meta-analysis of 13 published studies from 8 global regions (US, Europe, India, China, Indonesia, Israel, Bangladesh, and Gulf region), meeting the following criteria: inclusion of >1,000 patients with gender analyses from 2005-2015. A total of 410979 patients were included (26% female). We examined gender differences in demographics, baseline characteristics, rates and types of reperfusion therapy, and a primary outcome of 30-day mortality.

**RESULTS** The door to reperfusion time for women was longer with a mean difference of (8.3 minutes; 95% 2.7-13.7; p<0.0001). The 30-day mortality was more than 2 fold higher for women compared to men (OR 2.2; 95% CI 1.7-2.8; p<0.0001) with consistent excess mortality in all countries.

**CONCLUSION** Despite paucity of data, this meta-analysis clearly demonstrates significant gender disparity in STEMI care access and a consistent excess mortality of women presenting with STEMI. The complete meta-analysis will serve as an introduction to the GLOW program, a global initiative to inform and reduce the observed gender gap in STEMI Care. GLOW will seek to establish a comprehensive, standardized, internationally organized data collection, with an aim to elucidate some of the most critical parameters affecting the observed sex disparities including cultural barriers, lack of infrastructure, and socioeconomic status.

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**Microcalcification Detected in Fibrous Cap of The Patients With Acute Coronary Syndrome**

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**BACKGROUND** The microcalcification (MC) of fibrous cap might cause a unstable fibrous cap and provoke the plaque rupture and intracoronary thrombus.

**METHODS** We used optical coherent tomography (OCT) and Virtual histology intravascular ultrasound(VH-IVUS) to assess the MC in 264 pts with acute coronary syndrome (ACS). MC of the fibrous cap was diagnosed with OCT; and IVUS was used to determine arterial remodeling. Positive remodeling was a remodeling index (lesion/reference EEM [external elastic membrane] area) >1.05.

**RESULTS** 41 MC were assessed in the culprit lesion of 264 ACS pts. The mean age of MC was 59±11 yr, diabetes was 27% (11/41). The thickness of fibrous cap was 214±132 µm, and the thickness of MC was 219±110 µm which was in fibrous cap. The plaque composition beneath the fibous cap were fibrotic 29.1% (9/41), lipidic 24.4% (10/41), fibrocalcific 31.7% (13/41), thick cap fibroatheroma 17.1% (7/41), 4.9% (2/41) was thin-capped fibroatheroma. The remodeling index was 1.21±0.33 at the site of MC in the fibrous cap, Positive remodeling was 25% (10/41). The vessel size of proximal reference segment was smaller in MC group (p=0.09), however, lesion length (p=0.08), minimal lumen area(p=0.0002), and remodeling index (p=0.16) were similar. Although % maximal dense calcium was similar (p=0.08), however, % necrotic core was larger in MC group (p=0.05) (table). The thickness of fibrotic cap MC was correlated with % necrotic core in maximal calcium site (r=0.456, p=0.05).

**CONCLUSION** Microcalcification of fibrous cap might be a cause of ACS, and helpful to identify the future cardiovascular events.

	MC(+) (n=41)	MC(-) (n=215)	p-value
Proximal reference segment			
EEM area(mm <sup>2</sup> )	14.67±5.93	16.86±5.11	0.11
Lumen area(mm <sup>2</sup> )	7.35±3.52	8.54±2.57	0.09
Plaque area (mm <sup>2</sup> )	7.32±3.52	8.31±3.60	0.29
Lesion length (mm)	19.71±8.51	15.90±5.79	0.08
Minimal lumen area (mm)	2.14±0.62	2.98±1.65	0.0002
Maximal necrotic core site			
EEM (mm <sup>2</sup> )	14.05±3.92	15.41±5.33	0.19
Lumen area (mm <sup>2</sup> )	4.55±2.50	5.05±2.67	0.36
Plaque area (mm <sup>2</sup> )	9.48±2.77	10.36±4.04	0.27
Plaque burden (%)	67.91±12.15	67.20±11.39	0.77
Remodeling Index	1.21±0.33	1.03±0.23	0.16
%fibrotic area	46.53±9.79	49.67±12.37	0.20
%fibrofatty area	6.74±5.65	10.80±11.11	0.056
%necrotic core	35.82±10.43	31.28±11.35	0.051
%dense calcium	10.92±5.86	8.56±6.83	0.08
Distal reference segment			
EEM area(mm <sup>2</sup> )	10.85±4.56	13.44±8.48	0.21
Lumen area(mm <sup>2</sup> )	6.26±2.71	7.33±2.83	0.14
Plaque area (mm <sup>2</sup> )	4.60±2.31	5.39±2.87	0.27