Early and late clinical outcome in elderly patients after revascularization with Primary Percutaneous Coronary Intervention presenting with acute ST-elevation myocardial infarction: Results from Qassim Primary Angioplasty Services (QAPAS) registry

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Objectives: We sought to investigate the procedural success rates, in hospital and 2 years clinical outcomes of Primary Percutaneous Coronary Intervention in patients older than 75 years presenting with acute myocardial infarction.

Methods: Total of 50 patients, 75 years or older were enrolled in the retrospective data analysis. Primary endpoints were procedural success, in hospital, short-term (1 month) and long-term (2 years) all cause mortality. Secondary end-points were recurrent MI, stroke, new revascularization.

Results: Mean age was 80.5 ± 5.75 years (range 75–96), 82% males, 18% females, 28 (56%) patients presented with anterior wall MI, 19 (38%) with inferior wall MI and 2 (4%) had posterior wall MI. All underwent PPCI achieving a door to balloon time of 140 ± 50 min (range 52–227 min) and CAG revealed SVD 16.5%, 2VD 29%, 3VD 54% and involvement of left main in 14.5% of cases. A total of 68 stents were deployed, mean stent length of 33.29 mm using DES in 42 patients (85.5%) and BMS in 2 patients (4%). Thirty (60%) patients received Glycoprotein IIbIIIa inhibitors. Successful recanalization of IRA was achieved in 90% of patients with 82% achieving TIMI III flow while no reflow occurred in 2 patients. Procedure related coronary artery dissection occurred in 2 patients. Mechanical complications like severe MR and severe LV dysfunction were observed in 4% and 16% of the cases, respectively. One patient had a massive fatal haemoptysis. In-hospital mortality was 18%. One-month and 2 years mortality were 2.5% (n = 1) and 11% (n = 4), respectively. Older age, Gp IIb IIIa use and higher Killip Class were associated with higher overall mortality. The incidence of recurrent MI and repeat revascularization was 4% and 7%, respectively.

Conclusions: Our data reveal that in elderly patients primary PCI is a feasible revascularization strategy and such patients have a high in-hospital mortality and complication rates.

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Comparison between endothelial progenitor cell capture and bare metal stents in coronary artery disease patients at high risk for instent restenosis and thrombosis

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Background: Since EPCs represent a pool of cells which contribute to the endothelial repair after vascular injury, the increased homing and retention of these cells at the site of stent implantation may increase and speed up the process of endothelialization.

The new bioengineered stent with the immobilized antibody against CD34 antigen bound to the surface of the struts is thought to enable the stent to capture circulating EPCs from the blood stream to establish a functional endothelial lining preventing platelet adhesion and activation, and thus thrombus formation, with modulation of the foreign body inflammatory response through acceleration of the natural healing process, thus preventing ISR. This may minimize the need for long term dual anti-platelet therapy.

Objectives: The purpose of this study was to compare the efficacy of the new endothelial progenitor cell (EPC) capture stents with that of bare metal stents in coronary artery disease patients at high risk for instent restenosis and thrombosis.

Methods: We randomly assigned 38 patients with lesions carrying a high risk of restenosis to have the Genous stent or a bare metal stent implanted. Lesions were considered high risk of restenosis if one of the following applied: a chronic coronary artery occlusion; a coronary artery stenosis with a length of more than 20 mm; a lesion in a coronary artery with a diameter of less than 2.8 mm by QCA; or any lesion in a diabetic patient or renal failure.

Results: At 6 months, the rate of the primary end point, composite of ISR and IST, was 26% in the Genous stent group when compared with 58% in the bare metal stent group (p = 0.049). Also, no stent thrombosis was observed in the Genous stent group compared to 1 probable stent thromboses in the bare metal stent group (p = 0.3). The cumulative rate of MACE (cardiac death, MI and clinically driven TLR) at 6 months was 26% in the Genous stent group (all due to clinically driven TLR) when compared with 52% in the bare metal stent group, a difference due to clinically driven target lesion revascularization (p-value = 0.1).

Conclusions: In patients with lesions carrying a high risk of restenosis, the Genous stent resulted in a non-sig-
significant trend towards lower rate of ISR and MACE compared with bare metal stents mainly due to more repeat revascularizations in the bare metal stent group.

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P wave dispersion as a valuable marker in prediction of outcome of tricuspid regurgitation and improved right ventricular function after percutaneous balloon mitral valvuloplasty in patients with mitral stenosis
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Objective: To investigate the impact of P-wave dispersion (PWD) outcome of tricuspid regurgitation (TR) and right ventricular (RV) function after successful percutaneous mitral balloon valvuloplasty (PMBV) in patients with mitral stenosis (MS) and sinus rhythm.

Methods: Seventy-eight consecutive patients undergoing PMBV were enrolled in this study. We evaluated PWD before and 1 month after PMBV. We studied the TR severity and RV function, in addition to the changes in pulmonary artery pressure (PAP), left atrial (LA) dimension, mitral diastolic gradient, and mitral valve area, the changes before and after PMBV.

Results: Patients with TR regression and improved RV function were classified as group A and those without regression of TR were classified as group B. There were significant decreases in mean diastolic gradient, PAP, and LA size, significant regression of TR from moderate-severe TR to mild TR and improvement in RV function after PMBV. PWD significantly decreased \( P < 0.001 \). Group B patients during follow-up had a higher PWD than those in group A \( P < 0.001 \). It was revealed with linear regression and correlation analysis that the degree of changes in PWD were correlated with development of regression of TR and improved RV function after PMBV.

Conclusion: P-wave maximum and dispersion are significantly increased in patients with MS. They decreased significantly after PMBV. They were significantly correlated with TR severity and impairment of right ventricular function and the degree of PAP. P maximum and dispersion could be considered as independent predictors of TR regression and improved RV function in patients with MS after PMBV.

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Long-term outcomes of acute coronary syndrome in young adults: Findings from Gulf RACE-2

Background: Long term outcome of young patients presenting with acute coronary syndrome (ACS) has not been described in the Middle East.

Objectives: To evaluate the risk factors, presentations, clinical assessments and long term outcome of young patients as compared with older patients with acute coronary syndrome.

Methods: The multi-center, prospective Arabian Gulf Registry of Acute Coronary Events (Gulf RACE-2) was used to determine the long term outcome of young patients with ACS.

Results: Sixty-five hospitals in 6 Arabian Gulf countries enrolled 7930 ACS patients from October 2008 to June 2009. Patients were divided in to two groups. Group A \( < 40 \) years, 686 pts (8.7%) with mean age of 36 ± 4 years and Group B \( > 40 \) years, 7244 pts (91.3%). Group A had a higher prevalence of STEMI (62% vs. 42.9%; \( P < 0.001 \)), male gender (91.3% vs. 77.6%; \( P < 0.001 \)), smoking (61.5% vs. 33.2%; \( P < 0.001 \)) and a lower prevalence of diabetes (18% vs. 42.2%; \( P < 0.001 \)), hypertension (21.4% vs. 50.2%; \( P < 0.001 \)) and hyperlipidemia (22% vs. 38.9%; \( P < 0.001 \)) as compared to Group B. However, in-hospital, 30 days and 1-year mortality rate were significantly lower in Group A compared with Group B (1.9% vs. 4.8%, 4.4% vs. 8.5% and 5.7% vs. 13.2%, respectively; \( P < 0.001 \) for all comparisons).

Conclusion: ACS among young adults is a major concern. There is a need for prevention programs to control smoking epidemic by targeting young adults in the population. Our study documented for the first time long term outcome among young patients with ACS in the Middle East.

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The ECG role in identifying the etiology of tachycardia-induced cardiomyopathy (TIC)
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Tachycardia-induced cardiomyopathy (TIC) is a well recognized entity of heart failure (HF) and various mechanisms due to tachyarrhythmias have been postulated to be responsible for impaired cardiac contractility. Previously reported cases showed reversibility of such disorder whenever stable cardiac rhythm is maintained adequately and we report on a 16-year-old boy who has been diagnosed to have TIC, which was misinterpreted initially as sinus tachycardia secondary to dilated cardiomyopathy and heart failure. A complete recovery of his left ventricular function was achieved by radiofrequency catheter ablation and highlights the importance of a 12-lead electrocardiogram (ECG) assessment in such patients.

1. Case:

A 16-year-old boy, with a six-month history of congestive heart failure, was referred from another