Results: Five randomized trials of Early PCI only met the inclusion criteria. Early PCI is associated with improved cardiovascular events with no significant bleeding complications. There is minimal clinical heterogeneity and insignificant statistical heterogeneity (I² = 12.6%, p = 0.33) among the five randomized control trials. The median time for needle to balloon is 4 h.

Conclusion: Early PCI should be incorporated in the treatment of all ST-segment elevation myocardial infarction. The median time for needle to balloon is 4 h.

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Chronic venous insufficiency: Prevalence and effect of compression stockings

Nourah Al-Hamdan, Bushra Al-Huthaly, Farid Midhet, A. Rahman Almohameed, Mahboob Hussain, Owayed Mohammad Al Shammeri

Introduction: Chronic venous insufficiency (CVI) is a common disease affecting mainly lower limbs leading to significant impact on the quality of life. There is no study, to our knowledge, has attempted to evaluate the impact of compression stockings on all patients with CVI. Our aim is to estimate the prevalence of CVI in Qassim and to test the effectiveness of compression stockings.

Methods: Screening for CVI among patients visiting the primary health care centers in Qassim until we reached 100 CVI patients diagnosed using the clinical, etiologic, anatomical, and pathophysiological (CEAP) classification. Then CVI patients randomized to compression stocking or standard medical therapy. Clinical follow up using multiple scale system including CEAP scale. Data analysis was performed using SPSS, version 17.0. We used chi-square test, ANOVA and linear regression to assess the impact of compression stockings on the clinical and venous scores of CVI before and after the intervention.

Results: Among the 226 screened patients, 138 (61.1%) were diagnosed to have CVI (69% in females and 45% in males, p < 0.001). Compared to baseline, both the clinical and venous scores for CVI at the follow-up were significantly lower among patients using compression stockings, p = 0.002 and p = 0.003, respectively. Regression analysis suggested that, after controlling for age, sex and body mass index, compliance was the main factor responsible for a significant reduction in the clinical score among CVI patients.

Conclusions: Chronic venous insufficiency is very common in Qassim, 61%. Compression stocking is highly effective in improving clinical symptoms and signs of CVI.

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Stemi: Thrombus characteristics and no reflow phenomenon

Bushra E. Alhothaly, Owayed Mohammad Al Shammeri, Adel Azmy, Abdullah Alghamdi, Mahboob Ali Dar, Yaser Bashir

Background: The “no-reflow” phenomenon refers to the absence of myocardial perfusion after opening the infarct-related artery during Percutaneous Coronary Interventions (PCI). “No-reflow” phenomenon is associated with malignant arrhythmia, advanced left ventricular remodeling, congestive heart failure, and cardiac death. We aim to Study the gross appearance and histopathology of the extracted thrombus that may suggests variables to predict the occurrence of “no reflow” phenomenon.

Methods: Twenty-five consecutive cases ST-segment elevation myocardial infarction (STEMI) treated by PCI using thrombectomy in Prince Sultan Cardiac Centre in Qassim were studied. Detailed Clinical, angiographic and histopathologic data were obtained. “No reflow” is diagnosed the presence of one of two criteria: (1) failure to obtain >70% of ST-segment resolution; (2) TIMI flow rate < 3. Chisquare test was used to compare the proportions.

Results: “No reflow” diagnosed in 14 patients (56%). The histopathology data suggested the majority of STEMI had recent thrombus, 19 out of 25 patients, but no difference between “no reflow” and normal flow groups, 11 versus 8, respectively; p = 0.73). The gross color of thrombus among patients with “no reflow” tend to be darker color, 12 versus 9 in “no reflow” and normal flow, respectively; p = 0.39. Though both observations were not statistically significant due to probably small sample size.

Conclusion: “No reflow” is common phenomenon during percutaneous coronary intervention in ST-segment elevation myocardial infarction. Larger scale study needed to test the observation of darker color thrombus may alert the development of “no reflow”.

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Demographic, clinical and device profiles of 5580 patients implanted with IPG in a geographically diverse population

Raed Abdelhallim Sweidan, Janis Ansabergs, Fawzi Alkandari

Background: We describe demographic, clinical and programming characteristics of a geographically diverse population implanted with an IPG, with a focus of patients enrolled from Middle East (ME).

Methods: Data were obtained from PANORAMA, a long term, prospective observational study of 8522 patients from 34 countries implanted with a cardiac pacemaker.
rhythm management device between 2005 and 2011. This analysis is based on the 5580 (65%) that were implanted with an IPG, of which 782 patients were enrolled from the ME (Kuwait \( n = 361 \) and Saudi Arabia \( n = 421 \)).

**Results:** Compared to the other regions patients from the ME were more likely to present with diabetes (20% vs 37%, \( p < 0.001 \)) and less likely to have NYHA class II, III or IV (34% vs 7%, \( p < 0.001 \)) or atrial fibrillation (33% vs 17%, \( p < 0.001 \). The ME region had the highest proportion of patients implanted with a single chamber device and AV block indication.

**Conclusion:** The Panorama IPG cohort provides a unique opportunity to examine the implant practices and clinical profiles of patients implanted with an IPG in the Middle East region. We found significant differences in patient characteristics, type of IPG, and choice of programming. Further work is needed to understand how these differences might contribute to differences in patient management and outcomes.

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**Assessment of the hemodynamic changes following fluid preloading in cardiac surgery**

Raed Amrullah Alsatli  
*Department of Anesthesiologist, College of Medicine, King Fahad Cardiac Center, King Saud University, Riyadh, Saudi Arabia; Department of Cardiac Science, P.O. Box: 7805 (Internal 92), College of Medicine, King Saud University, Riyadh 11472, Saudi Arabia*

**Background:** This prospective double-blind randomized study aims to study the hemodynamic changes following fluid preloading with Hydroxyethyl starch (HES) 6% (130/0.4) compared with normal saline (NS) in cardiac surgery patients.

**Methods:** Forty patients undergoing coronary artery bypass grafting (CABG) were enrolled in this study, then they were divided into 2 equal groups, HES and NS. After fast administration of 10 mL/kg from either solutions over 5 min only, hemodynamic parameters, such as heart rate, mean arterial pressure (MAP), central venous pressure (CVP), pulmonary artery occlusion pressure (PAOP), mean pulmonary artery pressure, systemic vascular resistance, and pulmonary vascular resistance were measured every 5 min for the total duration of 40 min. Results: There were significant differences in the cardiac index measurements between both groups at 15 min onward; also PAOP was significantly higher in HES group at 10 min onward. CVP was higher in HES group but statistically significant at 10 min only. MAP was higher in HES group, but that was statistically significant at 40 min only. On the other hand PAP was significantly higher at 10 and 40 min.

**Conclusion:** Fluid preloading with HES led to a significant increase in filling pressure of the left ventricle (PAOP) and cardiac index compared with NS. We believe that HES (130/0.4) could be a suitable solution for fluid preloading in CABG surgery patients. However, further studies are needed on different fluid preloading modalities with different dosing regimens.

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**Impact of atrioventricular compliance on clinical outcome of patients undergoing successful percutaneous balloon mitral valvuloplasty**

Ragab Abdelsalam Mahfouz, Waled Elawady, Ekhlas Hossein, Ahmad Yosri

**Objective:** We aimed to assess the impact of atrioventricular compliance (Cn) on the clinical outcome, pulmonary hypertension (PH) and right ventricular (RV) function changes after successful percutaneous balloon mitral valvuloplasty (PBVM).

**Methods and results:** Using Doppler echocardiography Cn was estimated from the equation that has been previously validated. Mitral valve area, tricuspid annular plane systolic excursion (TAPSE), pulmonary artery pressure (PAP) and degree of TR severity were evaluated before, immediately and every 6 months with a median duration of 32 months after successful PBMV in 150 consecutive patients. Compared to control subjects patients with MS had significant lower Cn \( (P < 0.0001) \). An immediate drop in PAP and significant improvement of RV function was observed after PBMV. Cn was correlated with the degree of PAPs, TAPSE \( (P < 0.0001) \). Patients with Cn < 3.75 mL/mmHg had higher incidence of adverse outcome (developing atrial fibrillation, worsening RV function, progressive left atrial dilation and redo intervention). Multivariate regression analysis showed that the Cn was the strongest independent predictor of PAPs and RV functional before and after successful PBMV \( (P < 0.0001) \). Cn < 3.75 mL/mmHg was the cut-off value for prediction of clinical events at follow-up.

**Conclusions:** The change and follow-up in RV function and pulmonary hypertension after successful PBMV were significantly correlated with the degree of Cn. This suggests a significant role of Cn in patients with MS, providing a good insight for intervention and utilizing Cn as a non-invasive hemodynamic index for risk stratification and proper timing for intervention in patients with MS.

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**Drug-eluting balloon for de-novo, ISR and bifurcation lesions cad:Short and intermediate results, prospective registry**

Rida Mustafa Nourallah, Ali Almasoud, Menwar Alanazi, Saad Alkasab

*Adult cardiology, Prince Sultan Cardiac Center, Riyadh, Saudi Arabia*