Troponin level before coronary artery bypass graft surgery is associated with increased mortality rate

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Objective: Cardiac troponin level indicate extend of miocardial injury.

Coronary artery bypass graft surgery early post myocardial infarction is associated with high mortality, trying to find a quantitative diameter to determine the high risk patients.

Method: Prospective data collection of troponin level and outcome of coronary artery bypass graft surgery was collected over 3 years (30 days mortality).

Result: A total of 550 patients who had CAGB over 3 years was collected, the patients were divided into 3 groups. Group 1 patient with troponin less than 3. Group 2 patient with troponin between 3 and 5. Group 3 patient with troponin above 5. The 30 days mortality was proportionally correlated to the troponin level. Group 1 had a mean mortality of less than 2%, group 2 had a mean mortality of 3.5%, and group 3 had a mean mortality rate of 10%.

Conclusion: Preoperative 30 days mortality post CAGB is proportionally related to the extend of myocardial damage which is reflected by troponin level. When possible it is better to wait and delay surgery until troponin level below 3.

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Proper method for preoperative chest preparation of patients listed for cardiac surgery

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Context: Postoperative pulmonary complication (PCCs) after cardiac surgery are a major source of morbidity and mortality, and increase length of hospital stay and resource utilization. The preoperative including prehospitalization period before CARDIAC surgery maybe used to improve a patients pulmonary condition. The efficacy of preoperative non-invasive CPAP and BIPAP machine use, chest physiotherapy (CPT) and postural drainage, frequent nebulization plus inspiratory muscle training (IMT) in reducing the incidence of PCCs in high-risk patients undergoing CARDIAC surgery has not yet been determined.

Objective: To evaluate the prophylactic efficacy of our new preoperative chest preparation strategy (strategy A) on the incidence of PCCs in high risk patients scheduled for elective CARDIAC surgery compared with classic routinely used one (Strategy B).

Design, setting, and patients: A single blind, randomized clinical trial conducted at the Cardiac Center of Kind Fahad Armed forces Hospital, Jeddah,

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Statin and ezetimibe in silent ambulatory myocardial ischemia (sesami trial)

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Background: Cholesterol lowering is associated with a reduction in cardiovascular morbidity and mortality. Statins are the main drugs for cholesterol lowering. Ezetimibe when added to statins gives further reduction in cholesterol but its long-term effect on cardiovascular morbidity and mortality and ischemic events is not known. This study sought to determine whether further cholesterol lowering with ezetimibe will also results in a reduction of myocardial ischemia during daily life.

Methods: We enrolled 50 patients with proven stable coronary artery disease (CAD) and at least one episode of ST-segment depression on ambulatory ECG monitoring. All of them were receiving optimal therapy for CAD including statin therapy for cholesterol reduction. 25 patients were randomized to continue their statin therapy (Statin only group) and 25 to receive statin plus ezetimibe 10 mg/day (ezetimibe group). Serum cholesterol and LDL cholesterol levels and ambulatory monitoring were repeated after 4-6 months of therapy. The two groups were comparable with respect to baseline characteristics, number of episodes of ST-segment depression, and baseline serum cholesterol levels. Holters were read by a blinded cardiologist.

Results: The ezetimibe group had lower mean total and LDL cholesterol levels at study end and experienced a significant reduction in the number of episodes of ST-segment depression compared with the statin only group. ST-segment depression was completely resolved in 13 of 25 patients (52%) in the ezetimibe group versus 3 of 25 (12%) in the statin only group. The ezetimibe group exhibited a highly significant reduction in ambulatory ischemia (P < .001). By logistic regression, treatment with ezetimibe was an independent predictor of ischemia resolution.

Conclusions: Further cholesterol lowering with ezetimibe can result in reduction or resolution of myocardial ischemia recorded as episodes of ST-segment depression in ambulatory monitoring of the ECG.

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0% CAGB, 0% reintervention, 2% rehospitalization for CHF, 1.4% rehospitalization for ACS.

Conclusion: CTO requires endless patience from the cardiologist. There is no need to abuse the resources of the cath lab if we follow the protocol of TO BELIEVERS. Excellent results can be obtained if CTO intervention done by using these basic equipments.

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Saudi Arabia, with the enrollment between November 2011 and October 2012. Of 500 patients referred for elective CARDIAC surgery, 100 (20%) met criteria for high risk of developing PPCs, of whom were enrolled and followed up until discharge from hospital after dividing him to two groups, our new preoperative chest preparation strategy group (group A) and classic routinely used group (group B).

**Intervention:** Patients were randomly assigned to receive either preoperative strategy (n = 50) or usual care B strategy (n = 50). Both groups received the postoperative physical therapy.

**Main outcome measures:** Incidence of PPCs especially pneumonia, duration of postoperative intubation and invasive ventilation, Intensive Care Unit (ICU) stay and hospitalization incidence of requiring re-intubation and impact of both strategies on postoperative patient compliance to respiratory therapy.

**Results:** Both groups were comparable at baseline. After CARDIAC surgery, PPCs were present in 10 (20%) of patients in the A group and 25 (50%) of patients B group. Pneumonia occurred in 5 (10%) of patients in the A group and in 7 (14%) of patients in the B (OR 95% CI). Median days range 6–18 days in the B group. Finally, postoperative patients compliance to respiratory therapy was significantly improved.

**Conclusion:** Preoperative A strategy reduced the incidence of PPCs an duration of postoperative hospitalization in patients at high risk of developing pulmonary complication undergoing CARDIAC surgery. Also, postoperative patient compliance to respiratory therapy was significantly improved.

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Current outcomes of the Glenn bidirectional cavo-pulmonary connection for single ventricle palliation

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**Objectives:** The Glenn bidirectional cavo-pulmonary connection (BCPC) is an established procedure in multi-stage palliation of various single ventricle anomalies. We aimed to report current outcomes following BCPC and to examine risk factors affecting survival and progression to next palliation stage.

**Methods:** 227 consecutive children with variable single ventricle pathologies underwent BCPC from 2002 to 2007. Competing risks analyses were performed to model events after BCPC (death and transition to Fontan) and subsequently after Fontan (death and cardiac reoperation); and to examine associated risk factors for poor outcomes.

**Results:** There were 139 males (61%) with median age of 7.6 months (interquartile range [IQR] 6.0–10.8) and median weight of 6.2 kg (IQR 5.2–7.4). Forty-three patients (19%) had primary BCPC and 184 (81%) had prior palliation: aortopulmonary shunt (n = 83), Norwood (n = 55), pulmonary artery band (n = 48), atrial septectomy (n = 25), pulmonary artery reconstruction (n = 14), anomalous pulmonary venous connection repair (n = 7), other (n = 8). Predominant ventricle was left morphology (n = 122, 54%), right morphology (n = 95, 42%), two equally developed ventricles (n = 10, 4%). Twenty-six patients (12%) had bilateral SVC. Concomitant surgery included atrioventricular valve repair (n = 18), pulmonary artery augmentation (n = 80), percutaneous Fontan preparation (n = 34), other (n = 24). Competing risks analysis showed that 5-years following BCPC, approximately 17% have died, 76% have undergone Fontan and 7% were alive awaiting or not qualifying for Fontan. On multivariable analysis, risk factors for death prior to Fontan were PVRI > 3 WU/M2 (HR 3.9, p = 0.001), dominant right ventricle (HR 2.1, p = 0.03), prior palliation other than aortopulmonary shunt (HR 0.4, p = 0.03). Competing risks analysis showed that 3-years following 172 Fontan operations, approximately 10% have died, 6% have undergone further cardiac surgery and 84% were alive and free from reoperation. Overall, 8-year survival following BCPC was only 74%.

**Conclusions:** Despite established selection criteria and improved surgical technique and medical management, there is a continuous failure and attrition risk following BCPC. Outcomes are influenced by underlying cardiac anomaly; patients with dominant left ventricle (i.e. tricuspid atresia, DILV) having the best survival while those with dominant right ventricle (i.e. HLHS, DORV with heterotaxy) having the worst survival. Increased pulmonary vascular resistance remains a significant factor affecting mortality.

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Role of biomarkers to identify individuals with silent cardiac disease to help improve primary prevention

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**Objectives:** The aim of this study was to evaluate power of identification of silent cardiac target organ damage (TOD) in population receiving primary prevention with the use of biomarkers.

**Background:** Primary prevention of cardiovascular events could be improved by identifying patients with silent cardiac TOD (i.e., myocardial ischemia, systolic dysfunction, diastolic dysfunction, left ventricular hypertrophy or left atrial enlargement). Biomarkers used for screening included high sensitive CRP [hs-CRP], high sensitivity cardiac troponin T [hs-cTnT], or B-type natriuretic peptide [BNP].

**Methods:** The study included 271 asymptomatic individuals already receiving primary prevention