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Neurodevelopmental problems in patients with congenital heart diseases (CHD) have become focus of an increasing concern. Aim of the study: to assess level of S100B protein as a brain damage marker in patients with CHD undergoing cardiosurgical procedures. Patients and methods: Fifteen patients (eight with cyanotic and seven with acyanotic heart disease), mean age of 4.8 ± 3.9 years, neurologically free admitted for procedures involving CPB were enrolled in the study, and 30 healthy children as a control group. S100B protein levels were assessed before operation, 1/2 an hour after CPB and 24 h after operation as well as heart rate, blood pressure, hematocrit, central venous pressure (CVP), PO2 and PCO2.

Results: S100B protein was significantly elevated in patients 1/2 an hour after CPB, before and after operation than controls with highest values 1/2 an hour after CPB (P < 0.0001, P < 0.001 and P < 0.001 respectively). Also, it was elevated in cyanotic compared to acyanotic group (P < 0.001). S100B protein 1/2 hour after CPB correlated positively with aortic clamping time, and negatively with body temperature.

Conclusion: patients with CHD are liable for subtle brain damage which increases during surgical intervention as evidenced by increased S100B protein. This elevation is related to aortic clamping time and core temperature during cardiac surgery.

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Corrected qt interval in normal egyptian neonates: Comparison to corrected qt interval of other ethnic groups

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Long QT syndromes (LQTs) is a familial cardiovascular disorder characterized by abnormal cardiac repolarization and sudden death from ventricular fibrillation Possible acquisition of standardized neonatal screening method to identify children with (LQTs) has led to interest in establishing normal values for neonatal QT intervals.

Aim of the work: to compare corrected QT interval in normal Egyptian neonates to published values of other ethnic groups.

Subjects and methods: This cross sectional study was conducted on neonates following up in Children’s Hospital Ain Shams University, with post natal ages ranging from 8 to 28 days (mean 13.91 ± 3.97 days). They were subjected to: history taking, clinical examination, Echocardiography and 12 lead ECG assessment of corrected QT interval using Bazetts formula Results: Cut off point of LQTc was >0.44 s, while that of short QTc was < 0.29 s significant increase in mean QTc values and LQTc %was found in upper Egypt than Delta (p 0.026, 0.01). Eighty five percent of neonates had normal QTc (0.300–0.450 s), 9% had LQTc (0.45 s) and 6% had short QTc (<0.300 s) significant increase in short QTc was found in PT than FT while significant increase in LQTc was found in FT (P = 0.020, 0.019).

Conclusion: Cut off point was >0.44 s for LQTc and < 0.29 s for short QTc in studied Egyptian neonates A higher percentage of patients with LQTc was found in Upper Egypt than Delta, and in FT than PT. Higher percentage of SQTc was found in PT than FT. Further studies are needed to confirm our results.

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Coronary angiography safety between radial and femoral access

Osama Mohamed Tayeh, Federica Ettori

Transradial coronary angiography has a lower incidence of access site complications, earlier patient ambulation, improved patient satisfaction, and lower cost. One of the major criticisms of the radial approach is that it takes longer; there are a longer overall procedure and fluoroscopy time, which means not only more staff will be exposed during the procedures, but they will also stand close to the patient where rates of radiation scattered by the patient are higher. The American Heart Association/American College of Cardiology clearly state that “the responsibility of all physicians is to reduce the radiation injury hazard to their patients, to their professional staff and to themselves”. So, the aim of this study was to evaluate the safety of radial versus femoral artery approach in our institution’s routine coronary angiography practice.

Methods: All cases of diagnostic coronary angiography (CA) over a 23 months period at a tertiary care hospital (Cardiothoracic department, Spedali Civili, Brescia University, Italy) were reviewed for this analysis. Study population was stratified according to arterial access used to perform the procedure into 2 groups; radial group and femoral group. Access crossover was recorded and stratified based on the first route of access attempted.
Door-to-balloon time in radial versus femoral approach for primary angioplasty in patients with st-segment elevation myocardial infarction

Osama Mohamed Tayeh, Federica Ettori

Primary percutaneous coronary intervention (pPCI) is considered the preferred reperfusion strategy for patients presenting with ST-segment elevation myocardial infarction (STEMI), conditional on the timely performance of the PCI procedure, as survival directly relates to reperfusion times. For patients undergoing pPCI for acute STEMI, potential differences between radial PCI (r-PCI) and femoral PCI (f-PCI) in door-to-balloon (D2B) times have not been widely evaluated. This study compares the D2B time between transradial versus the transfemoral approach in patients presenting with STEMI.

**Methods:** A retrospectively collected catheterization laboratory database was reviewed for the consecutive patients presenting with a STEMI, who underwent pPCI by the authors over a 23 months period at a tertiary care hospital(Cardiothoracic department, Spedali Civili, Brescia University, Italy). The study population was divided according to arterial access used to perform pPCI into 2 groups; radial group and femoral group. Specific time parameters were recorded: time from emergency room patient arrival-to-patient arrival in catheter laboratory, time from patient arrival in catheter laboratory–to-balloon inflation and total D2B time. Our composite end point was the time to revascularization, angiographic success, short term clinical success, and procedural vascular complications.

**Results:** Radial PCI were performed in 33 patients (67.3%) and 16 patients (32.7%) done through femoral artery. There was no statistical significant difference between the two groups regarding all demographic data. No significant difference was observed in the pre-catheter and catheter laboratory times. Mean times from emergency room door-to-catheter laboratory time for r-PCI vs. f-PCI were 82.48 ± 37.42 and 76.29 ± 34.32 minutes respectively (P = 0.636).

The mean time from patient arrival to the cardiac catheter laboratory–to-balloon inflation was 34.56 ± 14.2 in the r-PCI group vs. 33.12 ± 12.56 min with the f-PCI group (P = 0.215). The total D2B time was not significantly different between r-PCI vs. f-PCI groups (100.32 ± 36.3 vs. 97.31 ± 30.37 min respectively, P = 0.522). Angiographic success rates were observed in 92.1% of the patients for r-PCI, and in 87.5% for f-PCI (P = 0.712).

**Conclusions:** Patients presenting with STEMI can undergo successful pPCI via radial artery without compromising patient care. Door to balloon time is not increased by radial artery access compared with femoral artery access, where the operator has a considerable experience using the radial artery for coronary intervention.

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Thrombolysis in the age of primary percutaneous coronary intervention: Review and meta-analysis of early PCI

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**Introduction:** Primary percutaneous coronary intervention (PCI) is only available for minority of patients with ST segment elevation myocardial infarction in acute care hospitals in Saudi Arabia. Early PCI has evolved from facilitated PCI but with more delayed timing from thrombolysis to PCI (needle to balloon time). Previous metaanalyses proved the effectiveness of early PCI but they were contaminated by inclusion of facilitated PCI trials. Our metaanalysis enroll clinical trails of early PCI only to estimate the effectiveness and determine the needle to balloon time.

**Methods:** MEDLINE search in English language from 1990 to March 2012 of randomized control trials of early PCI was performed. All included clinical trials compared early PCI to standard medical therapy. We excluded clinical trials that used early PCI when primary PCI feasible. Statistical analysis was performed using the Review Manager 5. Odds ratio (OR) random-effect model and 95% confidence intervals (CIs) were used as summary statistics.