

Conclusion: MM-TAPSE and 2D-TAPSE correlate strongly. 2D-TAPSE can provide a reliable alternative to MM-TAPSE to quantitatively measure RV systolic function and may be especially useful in situations where retrospective comparisons are sought.

<http://dx.doi:10.1016/j.jsha.2015.05.214>

34. Radial artery ultrasound preceding transradial coronary angiography

Rami Abazid, Osama A. Smettei, Haitham Saker, Sawsan Sayed, Mohamed Z. Mohamed, Mobadah Kattea, Annie Suresh, Yaser Bashir

Background and purpose: Transradial approaches (TRA) became the preferred vascular access during conventional coronary angiography (CCA). In fact a smaller mean radial artery diameter (RAD) may lead to higher rates of vascular access complications (VAC); however, there are no data regarding the effect of radial cross sectional area (CSA) and perimeter. We therefore evaluated the impact of preprocedure radial artery diameter, CSA and perimeter on vascular complications.

Methods: We conducted a single-center prospective analysis of 207 patients underwent CCA. A radial artery ultrasound performed pre and post CCA to measure RAD, CSA, and perimeter.

Results: The average RAD, CSA and perimeter were (2.7 ± 0.55 mm), (6.3 ± 1.9 mm²), (9.2 ± 1.7 mm) respectively. The same measurements were significantly larger in men than in women (2.8 ± 0.5 vs. 2.3 ± 0.4 mm [$P < 0.0001$], 6.7 ± 1.8 vs. 4.9 ± 1.4 mm [$P < 0.0001$], and 9.6 ± 1.5 vs. 9 ± 1.7 mm [$P = 0.001$], respectively). Fourteen patients (6.8%) had VACs. The RAD, CSA and perimeter were significantly smaller in procedures with VACs than in procedure with no complications (2.1 ± 0.5 vs. 2.7 ± 0.5 [$P = 0.014$], 4.6 ± 1.4 vs. 9.4 ± 1.6 [$P = 0.014$], and 7.2 ± 1.8 vs. 9.4 ± 1.6 [$P = 0.022$], respectively). Univariate logistic regression showed that radial ultrasonic parameters can independently predict VACs as follows: RAD (Odds ratio (OR) = 1.4. 95% CI 1.08–1.68, $p = 0.007$) for RAD, (OR = 2. 26. 95% CI 1.11–4.58, $p = 0.24$) For CSA and (OR = 2.86. 95% CI 1.3–6, $p = 0.006$) for perimeter.

Summary: ultrasonic study of the radial artery before CCA can provide important information regarding the vascular access. We found that a smaller radial diameter, CSA and perimeter are associated with higher rates of VACs.

<http://dx.doi:10.1016/j.jsha.2015.05.215>

35. Incomplete right ventricular remodeling after transcatheter atrial septal defect closure in pediatric age

Hayat H. Nassar, Hala M. Agha *, Sonia A. El-Saiedi *, Mohamed F. Shaloot *, Hala S. Hamza *, Doaa M. Abdel-aziz

Background: Published data showing the intermediate effect of transcatheter device closure of atrial septal defect (ASD) in the pediatric age group are scarce.

Objective: To assess the effects of transcatheter ASD closure on right and left ventricular functions by tissue Doppler imaging (TDI).

Patients & Methods: The study included 37 consecutive patients diagnosed as ASD II by TTE and TEE and referred for transcatheter closure at Cairo University Specialized Pediatric Hospital, Egypt from October 2010 to July 2013. 37 age and sex matched was selected as control group. TDI was obtained using the pulsed Doppler mode, interrogating the right cardiac border (the tricuspid annulus) and interventricular septum (lateral mitral annulus) and myocardial performance index (MPI) was calculated at 1, 6 and 12 months post device closure.

Results: Transcatheter closure of ASD and echocardiographic examinations were successfully performed in all patients. There were no significant differences between two groups as regards age, gender, weight or BSA. By TDI, patients with ASD had significantly prolonged IVCT, IVRT and MPI compared to control group. Decreased tissue Doppler velocities of RV and LV began at 1 month post-closure compared to the controls. Improvement of RVMPI and LVMPI began at 1 month post-closure but still they are prolonged till 1 year.

Conclusion: Reverse remodeling of right and left ventricles began 1 month after transcatheter ASD closure but didn't completely return to normal even after 1 year follow-up by TDI.

<http://dx.doi:10.1016/j.jsha.2015.05.216>

36. Clinical profile of coronary slow flow phenomena – A cardiac Y syndrome

Toufiqur Rahman, Abdullah al Shafi Majumder, Afzalur Rahman

Background: Coronary slow flow phenomenon (CSFP) is characterized by delayed progression of the contrast medium injected through the coronary tree during Coronary Angiogram (CAG). CSFP is usually observed in patient with various spectrum of Coronary Artery Disease including Acute Coronary Syndrome and

Chronic Stable Angina (CSA). The exact pathogenesis of CSFP is unknown, but 80% of patients experience recurrent episodes of typical anginal pain which results in impairment of quality of the life. Endothelial Dysfunction, Inflammation and diffuse atherosclerosis are various proposed pathogenesis of CSFP. CSFP causes significant cardiovascular morbidity due to dynamic ECG changes and symptoms worsening necessitating recurrent hospitalization and they tend to undergo repeated investigations like Coronary Angiogram.

Aim: To see clinical characteristics like risk factors and others of coronary slow flow phenomena.

Methods: A total of 45 patients over a period of 6 months with Non Obstructive coronaries below the age group of 60 years who presented with Ischemic Heart Disease were studied. Coronary Slow Flow was identified using thrombolysis in myocardial infarction (TIMI) frame count (TFC) method introduced by Gibson. TIMI-2 flow grade (i.e. requiring ≥ 3 beats to opacify the vessel) or a corrected TIMI frame count >27 frames have been frequently used. The later is based upon images acquired at 30 frames/second and a correction factor of 1.7 for the LAD Risk factors and profiles of all the patients were studied in detail. Those patients who had Coronary Artery ectasia, coronary aneurysm, ventricular dysfunction, valvular heart disease and connective tissue disorders. were excluded.

Results: Out of 45 patients presented with CSFP 95% were males and 5% females with a mean age of 47 years. CSA with Positive Stress Test were 65%, 15% had Unstable Angina and 25% presented with Myocardial Infarction with Positive Troponin I test. Dynamic ECG changes were present in 30% of the cases. Analysing the risk factors, most of the patients had uncontrolled hypertension (75%) and also were smokers (65%). Diabetes was prevalent in 60% of cases and dyslipidemia in 35% of cases. There were no mortalities noted in hospitalized patients.

Conclusion: CSFP was prevalent in wide spectrum if Ischemic Heart Disease presenting as CSA and Acute Coronary Syndrome. Most of the patients presented with CSFP were smokers and had uncontrolled Hypertension.

<http://dx.doi:10.1016/j.jsha.2015.05.217>

37. Restoration of normal left ventricular geometry after percutaneous mitral annuloplasty – Case report and review of literature

Muhammad Adil Soofi, Faisal Alsamadi

Surgical mitral valve intervention is not considered suitable in patients with severe functional mitral regurgitation due to severe dilated cardiomyopathy and severe systolic dysfunction. In such patients percutaneous mitral valve intervention is the next best alternative. We are presenting case report of a patient who presented with severe dyspnea progressing to orthopnea and paroxysmal nocturnal dyspnea. He was found to have

severe functional mitral regurgitation and severe left ventricle systolic dysfunction. Surgical mitral intervention was not considered suitable and percutaneous mitral annuloplasty was done. At one month follow-up significant improvement in symptoms were noted with improvement in severity of mitral regurgitation severity. At six months follow-up further improvement in symptoms were noted along with significant improvement in the severity of mitral regurgitation and normalization of left ventricle geometry. At one year follow-up his symptoms further improved, left ventricle geometry remained normal and mitral regurgitation severity remained mild to moderate.

Our case demonstrate that in patient with severe LV systolic dysfunction, severe mitral regurgitation and LBBB percutaneous mitral annuloplasty can obviate the need for CRT-D due to significant improvement in LV function and geometry along with regression in severity of mitral regurgitation. Improvement in mitral regurgitation severity and LV geometry started early and kept improving with excellent result at 6 and 12 months.

<http://dx.doi:10.1016/j.jsha.2015.05.218>

38. Is there a correlation between diastolic dysfunction and coronary artery disease on coronary CT angiography?

Abdelrahman Jamiel, Amjad Ahmed, Iyad Farah, Mouaz Al-Mallah

Background: We investigated the relationship of coronary artery calcium score (CCS) and presence of coronary artery disease (CAD) on coronary CT angiography (CCTA) and measures of LV diastolic dysfunction (DD). *Methods:* We included 527 consecutive patients (39% women; mean age, 49 ± 12 years) without known CAD who underwent coronary CTA and transthoracic echocardiography within one month. CAD was evaluated on a per-vessel, and per-segment basis for intraluminal diameter stenosis by using a 16-segment model and summed over segments to obtain overall coronary plaque burden (segment involvement score [SIS]; maximum = 16). Transthoracic echocardiography evaluated mitral inflow E wave-to-A wave ratio (EAR), tissue Doppler early mitral annular tissue velocity axial excursion and stage of diastolic dysfunction.

Results: A total of 189 patients (36%) had DD with 50 patients (9.5%) had more than stage 2 DD. The presence of DD was associated with increasing CCS ($p < 0.001$). Similar, there was a statistically significant correlation between EAR and CCS ($r = -0.152$, $p = 0.002$) and SIS ($r = 0.536$, $p < 0.001$). The prevalence of more than stage 2 DD increased with the presence of obstructive CAD (12% versus 6%, $p = 0.020$) and number of obstructive vessels ($p = 0.013$). In multivariable analyses, the independent predictors of more than stage 1 DD included age ($p < 0.001$), LV ejection fraction ($p < 0.001$) and