Heart Centre Singapore between August 2017 and November 2017. All enrolled patients had CTA performed on a Toshiba Aquilion One 320-slice CT scanner which was further analysed using Vitrea software. Demographic and clinical informations including relevant investigations were recorded and statistical analysis was performed.

**Results:** Majority (58.3%, n=326) of the patients in this study are male with the mean age (+/-SD) of 55.35 (12.1) years old. Of these 560 patients, 97 (17.3%) was found to have myocardial bridging by CTA. Majority (n=95) of the bridges was found in LAD, three was found in right coronary artery, and one in ramus intermedius artery. Of the 97 patients with myocardial bridging by CTA, 26 underwent angiogram and 6 was confirmed to have bridging by angiogram procedure. There was no statistically significant association between patients' demography with the presence of myocardial bridging by CTA.

**Conclusion:** The prevalence of myocardial bridging found by CTA in this study was 17.3% with no significant association between patients' demography and the presence of myocardial bridging.

doi:10.1016/j.ijcard.2018.11.065

35. **Myocardial Work: A Novel Technique of Assessing Myocardial Efficiency in Different Causes of Left Ventricular Hypertrophy**


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**Background:** The complex changes that occur in the heart during LV remodeling in response to wall stress cause alterations in LV size and geometry. However, little is known on how these changes affects myocardial efficiency. Myocardial work, using echocardiography is a novel assessment method that augments Automated Functional Imaging (AFI) by taking into account dynamic left ventricle (LV) pressure. This adds an important dimension to the assessment and interpretation of LV function.

**Aim:** To evaluate patterns of global myocardial work between physiological and pathological causes of LV hypertrophy.

**Method:** This was a descriptive single center cross-sectional study. Conventional two-dimensional (2D) greyscale images of LV apical two-, four-, and three-chamber views for assessing LV volumes, ejection fraction (EF), and global longitudinal strain (GLS) by speckle-tracking were captured during echocardiography. Myocardial work was analyzed offline using commercial software. Narrow sector 2D imaging over valves in parasternal long-axis view was used to define timing of opening and closure of the mitral and aortic valves; this was required for calculation of an estimated LV pressure curve.

**Result:** There were 20 normal subjects, 24 professional athletes and 10 patients with NICM in this cohort. NICM subjects were older (mean age 55±7.9 years), have lower EF (40±12%), higher LV mass (317±891) and pseudonormal pattern of diastolic dysfunction (E/A ratio 13±0.9). The professional athletes were relatively younger, have higher LV EF (62±4%), lower LV mass, and supranormal pattern of diastolic dysfunction (203±579) (2.2±0.4). The mean GLS for the normal subjects, professional athletes and NICM were 19±2.4%, 20±2.5% and 14±0.7% respectively. The mean global MVI for the normal subjects, professional athletes and NICM were 1901±355 mmHg% 1931±485 mmHg%, 723±431 mmHg%. The NICM has more global wasted work and less global constructive work compared to the normal and athletes (351±179 mmHg% vs 180±53 mmHg% vs 119±97 mmHg% and 1187±322 mmHg% vs 1562±248 mmHg% vs 2170±483 mmHg%).

**Conclusion:** Increased LV mass may not translate into better myocardial work in a diseased myocardium.

doi:10.1016/j.ijcard.2018.11.066

36. **Malaysian Ropac Registry: Pregnancy with Structural Heart Disease in Malaysia**

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**Background:** With advances in surgery and interventional techniques for patients with congenital heart disease or valvular heart disease, survival into adulthood has improved. Clinicians caring for them also face the added challenges of maternal physiology during pregnancy. Due to lack of local data, clinicians often face uncertainties in managing them. Hence the need for a local registry.

**Material & methods:** Data is analysed from a single centre registry in Malaysia from 1st September 2015 to 31st December 2017. Pregnant mothers who were diagnosed to have structural heart disease (congenital, ischemic heart disease, valvular or cardiomyopathy) during pregnancy were included in this prospective registry. Immediate and follow up (at first and six months) outcomes for both mother and baby were recorded.

**Results:** A total of 50 patients were recruited with 20 patients (40%) being primigravida with mean age of mean age 30.9 (+/-5.6) years old. Twenty-eight patients (56%) had congenital heart disease, 18 patients (36%) had valvular heart disease, 2 patients (4%) had ischemic heart disease and the rest (4%) had cardiomyopathy. Ventricular septal defect (3 patients) and atrial septal defect (9 patients) were the common forms of congenital heart disease. On the other hand, mitral regurgitation (11 patients) and mitral stenosis (3 patients) were the common valvular heart disease. Most of them (92%) were in NYHA class I and delivered vaginally (54.0 %). There was no maternal mortality. Most babies were delivered near term with a mean weight of 2.96 (±0.39) kg. A total of five fetal losses were noted with two delivered from mothers with congenital heart disease and two in patients with valvular heart disease. Another fetal loss occurred in a patient with coronary artery disease. There was a 2% mortality at six months due to infective endocarditis.

**Conclusion:** Congenital heart disease (septal defects) is the most common form of structural heart disease while mitral valve disease is the commonest valvular heart disease. There is no postpartum mortality within 42 days. However, there was a mortality at six months. Fetal loss was 10% among mothers with structural heart disease.

doi:10.1016/j.ijcard.2018.11.067

37. **Impact of Myocardial Viability Assessed by Delayed Enhancement Cardiovascular Magnetic Resonance on Clinical Outcomes in Real World Practice**

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**Background:** The complex changes that occur in the heart during pregnancy were included in this prospective registry. Immediate and follow up (at first and six months) outcomes for both mother and baby were recorded.

**Results:** A total of 50 patients were recruited with 20 patients (40%) being primigravida with mean age of mean age 30.9 (+/-5.6) years old. Twenty-eight patients (56%) had congenital heart disease, 18 patients (36%) had valvular heart disease, 2 patients (4%) had ischemic heart disease and the rest (4%) had cardiomyopathy. Ventricular septal defect (3 patients) and atrial septal defect (9 patients) were the common forms of congenital heart disease. On the other hand, mitral regurgitation (11 patients) and mitral stenosis (3 patients) were the common valvular heart disease. Most of them (92%) were in NYHA class I and delivered vaginally (54.0 %). There was no maternal mortality. Most babies were delivered near term with a mean weight of 2.96 (±0.39) kg. A total of five fetal losses were noted with two delivered from mothers with congenital heart disease and two in patients with valvular heart disease. Another fetal loss occurred in a patient with coronary artery disease. There was a 2% mortality at six months due to infective endocarditis.

**Conclusion:** Congenital heart disease (septal defects) is the most common form of structural heart disease while mitral valve disease is the commonest valvular heart disease. There is no postpartum mortality within 42 days. However, there was a mortality at six months. Fetal loss was 10% among mothers with structural heart disease.

doi:10.1016/j.ijcard.2018.11.067