placement were significantly more hypotensive and higher ionotropic support compared to fluoro-guided at baseline. The indication-to-pacing time (elapse of time from the cardiologist decision for TTVCP implantation to the time of transvenous pacing activation) was significantly shorter in the echo-guided group compared to fluoro-guided group [70 $+/-$ 15 vs 210 $+/-$ 120 min, $p < 0.00001$]. There was a slightly higher pacing threshold in the echo-guided group compared to fluoro-guided group [0.8 $+/-$ 0.3 vs 0.5 $+/-$ 0.2 $p = 0.18$]. There were no significant difference in complications such as TTVCP death, infection, sepsis, hematoma and ventricular arrhythmia.

Conclusion

Temporary transvenous cardiac pacing implantation under echocardiography guidance is a feasible and safe alternative in hemodynamically unstable bradyarrhythmia particularly during COVID-19 pandemic.

46

The echocardiographic changes following arterio-venous fistula creation in advanced chronic kidney disease patients: A preliminary report

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Background

Echocardiographic changes following the creation of arterio-venous fistula (AVF) in end-stage renal disease (ESRD) patients undergoing regular haemodialysis have been reported. Pre-emptive AVF creation in advanced chronic kidney disease (CKD) patients and its effects on echocardiographic parameters remained unclear.

Objective

We aimed to characterize the echocardiographic changes following AVF creation in our advanced CKD cohort.

Materials & methods

Advanced CKD patients attending Vascular Surgery consult for AVF creation were approached and recruited. Serial echocardiogram will be scheduled at baseline, 1-month and 6-month post AVF creation. Patients' baseline characteristics and echocardiographic parameters were collected.

Results

In this preliminary report, we have included 9 patients with baseline and 1-month post AVF creation echocardiographic parameters. The mean age of patients was 68 $+/-$ 2.96 years. The mean LV systolic function were not different at baseline and 1-month post, 62.9% vs 61.7% (p-value = 0.611) respectively. There were numerical increment in the LVIDd, LVIDs and LA diameter 1-month post AVF creation but not statistically significant. Initial results showed that there was reduction of tricuspid annular plane systolic excursion (TAPSE) from 23.89 $+/-$ 3.62 vs 20.67 $+/-$ 2.35. The pulmonary artery systolic pressure (PASP) were also numerically

higher 25 vs 32 mmHg post AVF creation. However, the RV dimension such as RVDd did not change significantly.

Conclusions

The preliminary report from this short-term assessment following AVF creation did not show any significant changes to the left-sided parameters. However, reduction of TAPSE and raised PASP might indicate the beginning of RV dysfunction.

47

Coronary Computed Tomography Angiography as part of initial strategy, in assessment of patients with chest pain – clinical experience and 1 year prognosis

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Background

Coronary computed tomography angiography (CCTA) has been showed to have high specificity and sensitivity for detecting coronary artery disease (CAD). In Malaysia, national guidelines state that CCTA may be used in low- to intermediate pre-test probability (LI-PTP) of CAD, who have an equivocal functional test result, and who are asymptomatic or mildly symptomatic with good exercise capacity. Recent evidence suggested "CCTA-first" strategy in the evaluation of a patient with chest pain could provide prognostic benefits. Prognostic benefits of adopting this strategy in Malaysia has not been well studied.

Objectives

We aimed to evaluate 12-month clinical outcomes of patients with LI-PTP, using the CCTA as an initial strategy, or as part of the work-up for, chest pain assessment.

Methods

Consecutive patients who underwent CCTA examination from January 2020 to January 2021 were enrolled. Clinical information was then extracted. Primary outcome was defined as presence of stenosis of >50% in a major epicardial coronary artery; and secondary outcome defined as a composite of all-cause mortality, non-fatal myocardial infarction (MI) and coronary revascularisation.

Results

Among the initial 499 patients, 7 were excluded as they were high in PTP. The mean PTP was 47.1 $+/-$ 26.3. Baseline characteristics were available in 300 patients. The mean age was 53.5 $+/-$ 11.4 years, 59.3% were male, 18.6% were diabetic, 71.2% had hypertension, and 50.8% had hypercholestrolaemia. 1.9% had an equivocal functional test for ischaemia.

Of the 492 LI-PTP patients who underwent CCTA, 136 patients were suspected to have significant CAD, and recommended conventional coronary angiography (CCA). Of these, 91 patients underwent CCA. From this group 38 were found to have significant CAD which warranted revascularisation - 32 by percutaneous coronary intervention (PCI) and 6 referred for coronary artery bypass surgery (CABG). Therefore, utilising this strategy, 7.7% (38/

492) of patients met the primary outcome. Of the original cohort of 492 LI-PTP patients, only 230 completed 1 year follow up, and from this, one patient met the secondary outcome.

Conclusion

Incorporation of CCTA into contemporary chest pain evaluation identified significant number of patients with significant CAD and was also associated with a low cardiac event rate at 1 year follow-u.

48

Coronary artery calcification – distribution, extent and 1-year outcomes in patients with low to intermediate pre-test probability of coronary artery disease

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Background

Coronary artery calcium (CAC) is an established marker to predict major cardiovascular events (MACE), and has incremental value over traditional risk factors (CVRF). CAC is widely available, easily reproducible, and used in nearly all coronary computed tomography angiography (CCTA) assessment protocols for coronary artery disease (CAD). The distribution and extent of CAC, and its prognostic implications in local Malaysian patients with low to intermediate pre-test probability (LI-PTP) of CAD had not been established.

Objectives

We aimed to establish the distribution, extent and prognostic implications of CAC in patients without known CAD, but with LI-PTP of CAD, undergoing CCTA for chest pain evaluation.

Methods

Clinical information was obtained from consecutive patients who underwent CAC and CCTA examination from January 2020 to January 2021 at a single public access tertiary referral centre. The primary outcomes were the distribution and extent of CAC, and its relationship with MACE at 1 year.

Results

Of 499 consecutive patients, 7 were excluded due to high PTP. CAC was present in 172/492 (35%). Within this group, 74/172 (41.3%) had CAC score of 1–100 (mild), 75/172 (42.4%) had a CAC of 101–400 (moderate), 23/172 (13.4%) had CAC of >400 (high). 136 had suspected significant CAD and was offered conventional coronary angiography (CCA). 91/492 underwent CCA, and 38 were found to have significant CAD. Of those found to have significant CAD, 7/38 (18.4%) had CAC of zero, 8/38 (21.1%) had mild CAC, 12/38 (31.6%) moderate, and 11/38 (30%) high CAC. Severe CAC was associated with a higher rate of revascularization 11/23 (47.8%), compared to those with zero 7/320 (2.2%), mild 8/74 (10.8%) and moderate 12/75 (16%) CAC. Predictors of high CAC were age, male gender, and presence of cardiovascular disease risk factors. Of the 492 patients, 230 patients completed 1 year follow-up, and from this, 1 patient had a MACE.

Conclusion

In patients with LI-PTP risk of CAD, CAC was seen in approximately one third of our cohort. In the group with high CAC, a higher proportion required coronary revascularization, but MACE remained low at 1 year.

49

The prevalence and 10-year mortality rate of diabetic cardiomyopathy in the Malaysian population study

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Background

Diabetic cardiomyopathy (DCM) is defined by the abnormal myocardial structure and performance in the absence of other cardiac risk factors in individuals with diabetes mellitus. Diabetics are at higher risk of developing heart failure and suffer from a significantly higher rate of mortality in comparison to those without DM. Being a nation with the highest rate of obesity in South East Asia, it is important to determine the prevalence and outcome in the Malaysian cohort.

Methods

A longitudinal population-based study from Malaysia that spans a period of 15 years with a 3-yearly follow-up was extracted. Study recruits include adults aged ≥18 years from urban and rural communities. All subjects were clerked for medical history, clinically examined and offered echocardiogram.

Results

A total of 1975 subjects were identified and a total of 1355 subjects were recruited. Subjects were further divided into non-DM ($n = 1086, 80.1\%$), pre-DM ($n = 88, 6.5\%$) and diabetic ($n = 181, 13.4\%$) groups. A significantly higher percentage of diabetics ($n = 108$, 59.7%) and pre-diabetics ($n = 44$, 50%) were found to have diastolic dysfunction compared to non-diabetics ($p < 0.001$). A total of 20 deaths occurred over an 10-year follow-up period: 12 (60%) in the DM group, 8 (40%) in the non-DM and 2 (10%) in the pre-DM cohort. The survival rate was worse in diabetic patients with 2.04 higher chance of death as compared to patients with no diabetes mellitus when adjusted with ejection fraction. [b = 1.84, hazard ratio (95% CI) = 7.67 (3.03, 19.43), $p \le 0.001$]. Patients with abnormal ejection fraction have 2.92 higher chance of death as compared to patients with normal ejection fraction. [b = 2.92, hazard ratio (95% CI) = 18.61 (7.15, 48.43), p ≤ 0.001].

Conclusions

This is the first large prospective study looking into the prevalence and outcome of diabetic cardiomyopathy in this community. The high prevalence of diabetic cardiomyopathy and