Results

Our study included 107 patients with a mean age of 54.7 years old (SD ±13.3), with 83.2% being male. Ischemic heart disease was the cause of heart failure (HF) in 32.7% of patients, followed by non-ischemic HF (28.0%), and HF of an undetermined cause (26.2%). Common comorbidities includes hypertension (54.2%), diabetes mellitus (35.5%), coronary artery disease (32.7%), dyslipidemia (27.1%), and atrial fibrillation (22.4%). All of the patients have N-terminal pro b-type natriuretic peptide (NT-pro BNP) more than 600 pg/mL. Majority (64.5%, $n = 69$) of HF patient initated SGLT2i as outpatients. At baseline, 85% were on 3 GDMT (beta blocker, renin-angiotensin system inhibitor, mineralocorticoid receptor antagonists), 14% on 2 GDMT and only 1% on single GDMT. The HFH rate was 43% before initiating SGLT2i, which decreased to 15.9% within a year of initiating the therapy. Findings reveal that the HFH rate decreased by 10.5% among those initiated during admission while those initiated as outpatients saw a decrease in HFH rate by 36.3%. There were no HFH-related to diabetic ketoacidosis (DKA), urogenital infection or sepsis reported. Within the year, there were five deaths (4.7%), with only one attributed to advanced HF.

Conclusions

Our study showed SGLT2i initiation in inpatient and outpatient setting have potential benefit in reducing HFH and mortality within 1 year. The added therapy into standard HF GDMT is feasible in both HF setting.

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11.

The role of extracellular volume fraction in predicting left ventricular reverse remodelling and adverse outcomes in patients with non-ischemic cardiomyopathy and reduced left ventricular ejection fraction

B.K. CHUNG[A], H.S. LING[A,B], E.Z. CHAN[A,B], L.K. THIEN[A], I.X. PANG[A], L.K. LEONG[A], K.H. CHIANG[A], A.T.Y. KO[A], H.K. KHOR[A], F.E.P. SHU[A], K.H. HO[A], H.B. CHOW[A,B], C.T. TAN[A], K.T. KOH[A], Y.Y. OON[A], A. SAID[A,B], A.Y.Y. FONG[A,C], T.K. ONG[A], Y.L. CHAM[A]

[a]*Department of Cardiology, Sarawak Heart Centre*
[b]*Faculty of Medicine and Health Sciences, Universiti Malaysia Sarawak*
[c]*Clinical Research Centre, Sarawak General Hospital*

Background

Cardiac magnetic resonance (CMR) permits the quantification of extracellular volume fraction (ECV) which is a surrogate marker of myocardial interstitial fibrosis. ECV has been shown to predict heart failure (HF) events. Conversely, left ventricular reverse remodelling (LVRR) defined as decrease in chamber volumes and improvement in function, has a positive impact on prognosis. In patients with non-ischemic cardiomyopathy (NICM), the role of ECV in LVRR is not established.

Purpose

To study the association between ECV and LVRR events in patients with NICM with reduced left ventricular ejection fraction (LVEF).

Method

Consecutive patients with NICM with LVEF ≤40% who underwent CMR between 2016 and 2021 in Sarawak Heart Center and had ECV quantification were included. Patients with late gadolinium enhancement suggesting infarctions were excluded. The cohort was stratified into ECV ≤ 29% (upper limit of normal) and >29%. The index and 1-year echocardiographic parameters relating to LVRR [LVEF, LV end-systolic volume index (LVESVi) and LV end-diastolic volume index (LVEDVi)] were analysed for associations with the ECV strata. The clinical outcomes of all-cause mortality, hospitalization for HF (HHF) and emergency HF treatment were recorded.

Results

63 patients were included for analysis. 66% had ECV >29%. Baseline characteristics, symptom severity and intensity of guideline-directed medical therapy (GDMT) for HF were similar in both groups. Those with ECV >29% had worse LVEF, LVEDVi and LVESVi at index echocardiography. At follow up echocardiography, both ECV groups had improvements in these parameters with no statistical difference between the groups. There were more patients in the ECV >29% with LVEF improving ≥10% to >40% (50% versus 33%). However, there were more composite outcomes of all-cause mortality, HHF and emergency HF treatment in those with ECV >29% (24% versus 19%; p 0.67).

Conclusion

In our cohort of NICM patients with reduced LVEF and exposed to GDMT for HF, LVRR was observed regardless of ECV. However, ECV >29% was associated with worse parameters of adverse LV remodelling at index echocardiography, all-cause mortality and HF events. ECV may confer additional value in the prognostication of HF patients beyond LVRR.

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12.

The association between early morning cortisol and heart failure preserve ejection fraction (HFpEF) in Hospital Al-Sultan Abdullah

A.F. ZAKARIA[A], S.F.W.M. HATTA[A], K.S. IBRAHIM[B], S. KASSIM[B]

[a]*Department of Internal Medicine, Endocrine & Diabetes, Faculty of Medicine, Universiti Teknologi MARA, 47000 Sungai Buloh, Selangor, Malaysia*
[b]*Department of Cardiology, Faculty of Medicine, Universiti Teknologi MARA, 47000 Sungai Buloh, Selangor, Malaysia*

Background

Progression of chronic congestive heart failure (CHF) is associated with activation of neuro-endocrine stress response systems including the hypothalamic—pituitary—adrenal axis that modulates the production and secretion of glucocorticoids including cortisol from the adrenal cortex. Serum cortisol is one of stress hormone that will increase in response to our body stress. HFpEF is chronic and progressive disease that making our heart muscle in continues stress state for prolong time. Previous study showed that high level of serum cortisol concentration is independent risk factor of increase cardiovascular morbidity and mortality and also major all cardiac event (MACE) and sudden cardiac death in patient with chronic heart failure.

Objective

The aim of this study was to determine the association between serum morning cortisol in HFpEF patients attending Hospital Al-Sultan Ahmad Shah.