Background: Impairment of left ventricular systolic function after ST elevation myocardial infarction (STEMI) is major complication and associated with long term poor outcome.

Purpose: In this study, we proposed to check whether early RAAS inhibition is associated with improved LV function in patients with STEMI.

Methods: In this study, we prospectively included patients with STEMI who were treated by primary percutaneous coronary intervention (PCI). We choose left ventricular (LV) global longitudinal strain (GLS) as a marker of LV systolic function. GLS was estimated by using a two dimensional (2D) speckle-tracking echocardiography (STE).

Results: A total of 473 patients (59±13, 86% male) were selected for this study. In patients without previous hypertension, LV GLS was significantly different between patients who received treatment with RAAS inhibition (ACEI or ARB) during their admission and patients who didn’t (16.2% vs. 14.9%, p<0.05). In patients with previous hypertension, however, LV GLS was similar between patients who received treatment with RAAS inhibition during their admission and patients who didn’t (14.9% vs. 14.8%, p=0.881). Multiple linear regression analysis which including age, gender, DM, CKD, previous CAD, previous MI, previous CHF, showed that treatment with RAAS inhibition was independent predictor of improved GLS in patients without previous hypertension (β=1.23, 95% CI 0.21–2.0, p=0.018, r²=0.025, p<0.05).

Conclusions: In STEMI survivors without previous hypertension, early treatment with RAAS inhibition during their admission is independently associated with improved LV GLS.

P3365 | BEDSIDE

Left ventricular diastolic function and prognosis in myocardial infarction with reduced, mid range and preserved ejection fraction

H. Okura1, T. Kataoka2, K. Yoshida3 on behalf of BELAMI registry. 1Nara Medical University, First Department of Internal Medicine, Kashiwara, Japan; 2Bell Land General Hospital, Cardiology, Sakai, Japan; 3The Sakakibara Heart Institute of Okayama, Cardiology, Okayama, Japan

Background: Although heart failure (HF) has been categorized as either HF with preserved (HFP EF) or reduced ejection fraction (HFr EF), recent ESC guideline for heart failure regarded HF patients with EF between 40-49% as gray area (HF with mid range EF; HFR EF). Myocardial infarction (MI) is one of the leading causes for HF. It is uncertain if the diastolic performance is also in gray area in MI patients with preserved EF (MIPv EF).

Purpose: The aim of this study was to investigate echocardiographic characteristics of MI with preserved (MIPv EF), mid range (MIR EF) and reduced EF (MiR EF).

Methods: A total of 953 consecutive patients who were enrolled in Bell Land General Hospital Myocardial Infarction (BELAMI) registry were used and studied. Echocardiographic derived systolic as well as diastolic indices were compared among the 3 groups.

Results: MIPv EF and MIR EF are similar to preserved (MIPv EF: 70.8±1.7 vs. 67.6±1.7, P<0.01). Left atrial diameter is similarly bigger in MIPv EF and MIR EF (39.5±5.5 vs. 39.7±6.1 vs. 37.6 mm, P<0.01), E was higher (0.67±0.23 vs. 0.60±0.27 vs. 0.54±0.18 m/s, P<0.01) and e’ was lower (4.5±1.5 vs. 4.3±1.6 vs. 5.4±1.6 cm/s, P<0.01) in MIPv EF and MIR EF than in MiR EF. As a result, E/e’ was significantly higher in MIPv EF and MIR EF than in MiR EF (16.1±7.9 vs. 16.8±7.5 vs. 12.8±5.2, P<0.01). Kaplan-Meier survival curves demonstrated that incidence of HF in MIPv EF was initially mid range between MiR EF and MiR EF but was similar to MiR EF at long-term follow-up (Figure).

Conclusion: Left ventricular relaxation was similarly impaired and left ventricular filling pressure was similarly elevated in MiR EF and MIPv EF than in MiR EF. Long-term incidence of HF in MIPv EF was similar to that in MiR EF.

P3367 | BEDSIDE

A novel index of left ventricular stiffness predicting clinical outcome in patients with heart failure

T. Kanda1, M. Fujita1, O. Iida1, M. Masuda1, S. Okamoto1, T. Ishihara1, K. Nanto1, T. Tsujimura1, A. Sunaga1, M. Uematsu2, T. Mano1, 1Kansai Rosai Hospital, Cardiovascular Center, Amagasaki, Japan; 2Osaka National Hospital, Institute for Clinical Research, Osaka, Japan

Background: There are two types of heart failure (HF), heart failure with preserved ejection fraction (HFp EF) and with reduced ejection fraction (HFr EF), whether increased LV stiffness is a predictor of outcome in both types of HF patients remains unclear. The ratio of early diastolic transmitral flow velocity to early diastolic myocardial velocity (E/e’) has been used to estimate left ventricular filling pressure. We hypothesized E/e’ normalized by the stroke volume (SV), may be a useful predictor of outcome in patients with HF by reflecting the terminal slope of the end-diastolic pressure-volume relationship i.e. stiffness of the left ventricle.

Purpose: The aims of this study was to propose a novel echocardiographic index, E/e’/SV, and investigate the feasibility and accuracy of E/e’/SV in predicting outcomes in patients with heart failure.

Methods: Echocardiography including E/e’/SV measurement was performed in consecutive 136 patients with HF at discharge in index hospitalization: 50 male patients (37%); age, 74±13 years old; HFP EF with EF≥50%, 63 patients (46%). Patients were followed for a median of 8.4 months. The end points included the admission for heart failure and cardiovascular death.

Results: During the follow-up, 36 patients (26%) encountered the end points. In ROC analysis, E/e’/SV was a better predictive factor for HFP EF than HFr EF (HFp EF, AUC=0.812; HFr EF, AUC=0.777). Kaplan-Meier analysis showed patients with E/e’/SV >0.470 had a poorer prognosis than those with E/e’/SV ≤0.470 (P<0.01). High E/e’/SV was an independent predictor of event-free survival (Adjusted Hazard ratio [95% CI] = 3.06 [2.33, 10.96] (p<0.001)) in the Cox multivariate analysis incorporating the variables of high E/e’/SV, high BNP, reduced renal function, and past heart failure history.

P3368 | BEDSIDE

Lung ultrasound B line artifact in diagnosis of pulmonary congestion in patients with preserved EF

M. Tsvetara1, D. Tsvetara2, E. Khurstsida1, N. Goginashvili1, T. Odisharia1, 1Tbilisi State Medical University Iv.Javakhishvili (TSU), Internal Medicine, Tbilisi, Georgia Republic of; 2MediClubGeorgia Tbilisi Clinic, Medicine, Tbilisi, Georgia Republic of

According to 2016 ESCARIO Guideline, Heart Failure was divided into 3 types: heart failure with reduced (HFREF, EF<40%), with preserved (HFP EF,EF≥50%) and middle range (HFmEF, EF=40–50%) ejection fraction. Pulmonary edema (PE), due to fluid retention and redistribution is the cardinal manifestations of