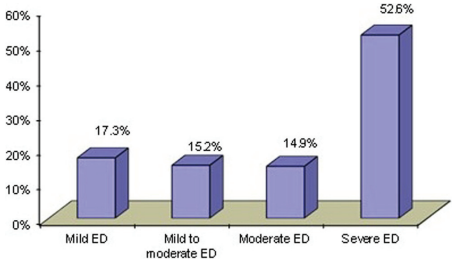
medications. Scarce data is known about the prevalence of ED in HF population.
Purpose: To detect the prevalence of ED in patients with heart failure with reduced ejection fraction (HFrEF) and associated factors.
Methods: The study was conducted on four hundred sexually active male patients with HFrEF with left ventricular ejection fraction (LVEF) ranging from 20 to 40% with NYHA class I-III. All patients were subjected to detailed history focusing on age, risk factors (hypertension, diabetes melliteus, smoking, obesity, dyslipidemia and ischemic heart disease), NYHA functional class, Minnesota Living with HF questionnaire (MLHFQ), laboratory investigations (hemoglobin level and serum creatinine), detailed drug history and International Index of Erectile Function (ILEF-5) questionnaire. ED was defined if ILEF-5 score fell below 22. ED was further subdivided into mild (17–21), mild to moderate (12–16), moderate (8–11) and severe (below 8).
Results: The prevalence of ED in the study population was 82.25%. Factors that were significantly associated with ED included age, hypertension, obesity, higher NYHA class, higher Minnesota score, low hemoglobin level, higher serum creatinine, atrial fibrillation, lower LVEF and use of digitalis or mineralcorticoid receptor antagonists. The use of statins was significantly associated with better erectile function. However, smoking, diabetes melliteus and the use of beta blockers (BBs), angiotensin converting enzyme inhibitors (ACEIs), angiotensin receptor antagonists (ARBs), ivabradine or phosphodiesterase inhibitor-5 inhibitors were not significantly associated with the presence of ED. Increased NYHA class and Minnesota score was significantly associated with severity of ED ($p<0.001$) Multivariate regression analysis revealed that NYHA class and hypertension were the only independent predictors of ED.



Prevalence of ED by severity

Conclusion: ED frequently occurs in chronic stable HFrEF male patients, posing a significant burden in HF management. ED is associated with worse functional capacity and quality of life. The use of most cornerstone HF medications including ACEIs, ARBs, BBs and ivabradine does not negatively impact ED.

ACUTE HEART FAILURE – CLINICAL

P4739
Which factors were correlated with improvement of cardiac function in acute heart failure patients with mid-range ejection fraction?

K. Yanagawa, M. Nishino, K. Ukita, M. Yasunaga, H. Nakamura, Y. Matsuhiro, K. Yasumura, K. Yasumoto, A. Tanaka, N. Mori, D. Nakamura, M. Yano, Y. Egami, R. Shutta, J. Tanouchi. *Osaka Rosai Hospital, Cardiology, Sakai, Japan*

Background: Recent ESC guidelines on heart failure (HF) introduced a new phenotype based on ejection fraction (EF), called the mid-range (HFmrEF). The factors correlating with prognosis in HFmrEF is unclear, especially, little is known about acute heart failure (AHF) in HFmrEF. In this study, we investigated of the factors correlating the improvement of 1 year-EF in AHF patiemts with HFmrEF.
Methods: In the acute heart failure registry in our Hospital (AURORA), we examined 89 consecutive HFmrEF patients (13%) in 710 HF patients who admitted to our hospital for AHF from January 2015 to January 2017. We divided our patients into IM group who improved EF (≥10%) during 1 yearand non-IM group who showed no improvement. We compared age, gender, etiology, body mass index, heart rate, blood pressure, atrial fibrilation, past history, medications, laboratory data, echocardiographic parameters, performed coronary angiography (CAG), PCI and ablation, and rehospitalization during 1 year between IM group and non-IM group.
Results: IM group consisted of 17 patients (19%). IM group had significant higher DBP (102.3±6.1 vs 86.4±3.0, P=0.021), lower BUN (20.9±5.4 vs 33.9±2.6, P=0.033), higher Ht (41.1±2.1 vs 35.3±1.0, P=0.016), higher EF (42.5±0.7 vs 44.1±0.3, P=0.031), smaller LVDd (53.3±1.3 vs 56.8±0.7, P=0.023), lower grade of MR (1 (1–2) vs 2 (1–3), P=0.017), more performed CAG and PCI on admission (70.6% vs 27.8%, P=0.002, 29.4% vs 6.94%, P=0.020). As a result, IM group showed less rehospitalization during 1 year than non-IM group (0% vs 37.5%, P=0.001). Multivariate analysis using the significant parameters that were detected by univariate analysis revealed that performed CAG on admission, LVDd and MR were independently associated with improved EF (table).
Conclusion: In AHF patients with HFmrEF, we should perform CAG on admission to obtain the optimal treatments, especially for the patients with non-enlarged left ventricle and mild MR.

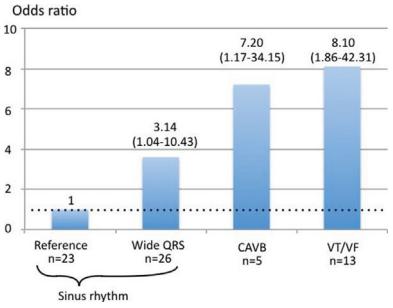
The predictors of IM group

	Multivariate analysis	
	Odd's ratio (95% confidence of interval)	P value
DBP, mmHg	1.01 (0.98–1.05)	0.532
BUN, mg/dl	0.96 (0.89–1.03)	0.221
Ht, %	1.01 (0.90–1.13)	0.816
LVDd, mm	0.76 (0.61–0.94)	0.002
MR, degree	0.43 (0.17–1.10)	0.047
CAG, n (%)	10.78 (1.43–81.01)	0.021

P4740
The prognostic value of electrocardiographic findings in patients with fulminant myocarditis supported by percutaneous venoarterial extracorporeal membrane oxygenation

A. Sawamura[1], T. Okumura[1], M. Ito[2], Y. Ozaki[3], N. Ohte[4], T. Amano[5], T. Murohara[1]. *[1]Nagoya University Graduate School of Medicine, cardiology, Nagoya, Japan; [2]Mie University Graduate School of Medicine, Department of Cardiology and Nephrology, Tsu, Japan; [3]Fujita Health University School of Medicine, Department of Cardiology, Toyoake, Japan; [4]Nagoya City University Graduate School of Medical Sciences, Department of Cardio-Renal Medicine and Hypertension, Nagoya, Japan; [5]Aichi Medical University, Department of Cardiology, Nagakute, Japan*

Background: It is known that some patients with acute myocarditis experience a fulminant course (fulminant myocarditis [FM]), which is often require mechanical circulatory support. Patients with FM present various abnormal findings on electrocardiography (ECG). Abnormal ECG findings are important for the diagnosis of acute myocarditis. However, the impact of ECG findings on prognosis is not fully elucidated.
Purpose: To clarify the prognostic value of ECG findings in patients with FM supported by venoarterial extracorporeal membrane oxygenation (VA-ECMO).
Methods: This was a multicenter chart review. We retrospectively investigated 99 patients with FM supported by VA-ECMO. The final cohort comprised 87 patients (age 52±16 years; female, 42%) after 12 patients who required conversion to other forms of mechanical circulatory support were excluded.
Results: The median left ventricular ejection fraction at the time of VA-ECMO initiation (0 h) was 14.5%; 32 (37%) patients received cardiopulmonary resuscitation just before VA-ECMO initiation. In comparison between Survivor (n=46) and Non-survivor (n=41), there were no significant differences in age, gender and immunosuppressive therapies. Survivor had significantly higher proportion of sinus rhythm (SR) (67%) than Non-survivor (44%) (p=0.03). At 0 h, 38 (44%) patients presented arrhythmias including atrial fibrillation (AF) (6%), complete atrioventricular block (CAVB) (17%), and ventricular tachycardia or fibrillation (VT/VF) (15%). Logistic regression analyses revealed that, in patients with SR, wide QRS predicted in-hospital death (odds ratio [OR] 3.14, 95% confidence interval [CI] 1.04–10.43, p=0.04). Therefore, we defined the patients with SR and narrow QRS (QRS duration <119ms) as Reference. In comparison with Reference, CAVB and VT/VF had a higher risk of in-hospital death (Figure). At 0 h, Reference had significantly lower level of serum creatine kinase [480 (293–781) U/L] than wide QRS [891 (516–1859) U/L, p=0.02], CAVB [1278 (640–1776), p=0.02], and VT/VF [852 (402–3439) U/L, p=0.002].



Logistic analyis for in-hospital death

Conclusions: In patients with FM, 44% experienced arrhythmias at the time of VA-ECMO initiation. CAVB and VT/VF carried a higher risk of in-hospital death. Even if patients presented SR, wide QRS also predicted higher risk of in-hospital death. These abnormal ECG findings would indicate the severity of myocardial damage due to the myocarditis.

P4741
Plasma volume status provides the additional long-term prognostic information to ADHERE risk level in patients admitted for acute decompensated heart failure

T. Yamada, T. Morita, Y. Furukawa, S. Tamaki, Y. Iwasaki, M. Kawasaki, A. Kikuchi, T. Kawai, M. Seo, J. Nakamura, M. Abe, K. Kayama, M. Kawahira, K. Tanabe, M. Fukunami. *Osaka General Medical Center, Osaka, Japan*

Background: The Acute Decompensated Heart Failure National Registry (AHDERE) risk levels are a validated tool to assess the risk of in-hospital mortality in patients with acute decompensated heart failure (ADHF). Plasma volume (PV)