39% in the high CCI group (p=0.04). 26% of high CCI patients were referred for palliative care input and the total mortality amongst this sub-group was 64% vs 28% (p=0.03) in patients not referred for palliative input.
Conclusions: Our data confirmed that the majority of HF patients have significant co-morbidities with 95% of our cohort having moderate or severe CCI. A specialist nurse-delivered ambulatory heart failure unit can provide a safe, cost effective treatment in complex HF patients with moderate and high CCI, thereby leading to a significant reduction in the need for hospital admissions and length of stay. It also offers early identification of patients for advance care planning with the support of palliative team, leading to significant reduction in hospital mortality.

P1471 | BEDSIDE
Comparison of three different diuretic treatment strategies in acute decompensated heart failure patients

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Background: There was few prospective data to establish a standard regimen for diuretic administration in acute decompensated heart failure (ADHF). We aimed to assess the safety and efficacy of three different regimens of furosemide administration in patients with ADHF on diuresis, renal functions and in-hospital outcomes.
Methods: A total of 43 patients who presented with ADHF were randomized into 3 different groups as, continuous infusion (cIV) of 160 mg furosemide for 16 h/day (n=15); bolus injections (bI) of 80 mg furosemide twice a day (n=14) and administration of 160 mg furosemide plus hypertonic saline solution (HSS) as an infusion for 30 min once a day (n=14). All regimens were continued for 48 h. Study endpoints were negative fluid balance assessed by loss of body weight, change in the serum creatinine (baseline to 48 h and baseline to become compensated) and length of hospitalization.
Results: There was no significant difference between groups in the mean change in serum creatinine level at the end of 48 h (p=0.08). There was not either any significant difference among groups regarding loss of body weight (p=0.66). A significantly shorter length of hospitalization was observed in patients treated with HSS (cIV group 6.6±3.4 days vs bI group 7.9±4.1 days vs HSS group 3.7±1.3 days; p<0.01) (Table 1).

Variables	*cIV (n=15)*	*bI (n=14)*	*HSS (n=14)*	*p*
Age,years	65.4 ± 12.2	71.7 ± 10.7	70.6 ± 8.2	0.24
Male gender, n (%)	8 (53)	7 (50)	9 (64)	0.72
Body weight, kg	85.4 ± 17.3	78.5 ± 18.1	79.0 ± 17.2	0.57
Diabetes mellitus, n (%)	5 (33.3)	7 (50)	9 (64.3)	0.24
Hypertension, n (%)	11 (73.3)	11 (78.6)	12 (85.7)	0.71
LVEF, %	41.1 ± 15.7	44.8 ± 9.9	40.5 ± 16.9	0.72
Baseline BUN, mg/dl	24.1 ± 8.3	25.2 ± 16.5	22.1± 7.2	0.76
Baseline serum creatinine, mg/dl	1.10 ± 0.26	0.93 ± 0.32	0.96 ± 0.29	0.27
Serum sodium, mEq/L	136.2 ± 5.2	137.8 ± 4.3	138.3 ± 5.0	0.49
Renal Function Tests After Treatment				
BUN, mg/dl #	38.8 ± 15.3	34.1 ± 18.7	37.9 ± 16.8	0.72
Serum creatinine at 48 hr, mg/dl *	1.27 ± 0.31	0.97 ± 0.27	1.17 ± 0.32	0.04
Serum creatinine, mg/dl #	1.46 ± 0.60	1.03 ± 0.40	1.27 ± 0.49	0.09
Serum sodium, mEq/L #	134.0 ± 7.2	136.0 ± 3.8	136.7 ± 4.1	0.37
Prespecified study end-points				
The length of hospitalization, days #	6.6±3.4	7.9±4.1	3.7±1.3	<0.01
Mean change in serum creatinine at 48 hr, mg/dl	0.16±0.21	0.04±0.15	0.20±0.21	0.08
Mean change in serum creatinine, mg/dl #	0.36±0.42	0.10±0.28	0.30±0.42	0.18
Body weight loss, kg #	4.6±5.2	4.1±2.7	5.7±3.6	0.66

LVEF: Left Ventricular Ejection Fraction; ACE: angiotensin coverting enzyme; ARB: angiotensin receptor blocker; bI: bolus injection; BUN: blood urea nitrogen; cIV: continuous intravenous infusion; HSS: hypertonic saline solution; NT-proBNP: N-terminal pro-brain natriuretic peptide

¥ Tukey's test analysis showed that this difference was significant between only the cIV and bI groups.

baseline to become compensated

Conclusion: Any of the three furosemide regimens can be used with similar renal safety and efficacy measures. However, administration of furosemide plus HSS might be preferred diuretic strategy with its shorter hospital stay.

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Arterial stiffness and ventricular-arterial coupling in patients with chronic kidney disease and heart failure with preserved ejection fraction

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Background: The interplay of cardiac function and vascular system is represented by ventricular-arterial coupling (VA coupling). Arterial stiffness measured by the cardio-ankle vascular index (CAVI) is proposed to be a surrogate marker of systemic vascular resistance. Abnormal ventricular-arterial coupling and arterial stiffness may contribute to pathophysiology of heart failure with preserved ejection fraction (HFpEF) especially in patients with chronic kidney disease (CKD). We hypothesized that such patients display abnormal ventricular-arterial coupling and arterial stiffness when compared to asymptomatic chronic kidney disease patients.
Method: Non-invasive ventricular-arterial coupling calculated by echocardiographic parameters and CAVI were measured in CKD patients enrolled from CORE-CKD cohort between October 2015 and December 2016. CKD patients with HFpEF are those with history of NYHA class III/IV symptoms with either elevated NT-proBNP or radiographic evidence of pulmonary congestion who were referred for echocardiogram. Independent samples T-test was used to compare the VA coupling and CAVI between CKD patients with HFpEF and without HFpEF.
Results: Forty-two CKD patients were enrolled, 24 were male (67%), The mean age of patients were 67.6 years (range 53–84). The mean eGFR was 34.4 ml/min/1.73m^2. Of the 42 patients, 13 (31%) had HFpEF. The mean CAVI and VA coupling were 9.1±1.6 and 0.85±0.22 respectively. The mean CAVI was significantly higher in HFpEF compared with patient without HFpEF (10.3±1.8 vs. 8.37±1.1, p=0.005) and mean VA coupling was significantly higher in HFpEF compared with patient without HFpEF (0.97±0.23 vs 0.73±0.18, p=0.014), adjusted of age, gender and blood pressure. Using CAVI and VA coupling as a predictor of HFpEF in CKD yielded the AUC of 0.81 and 0.72 respectively. CAVI of ≥8.8 (sensitivity 85%; specificity 62%) and VA coupling of ≥0.75 (sensitivity 85%; specificity 45%) are associated with the presence of HFpEF in CKD patients.

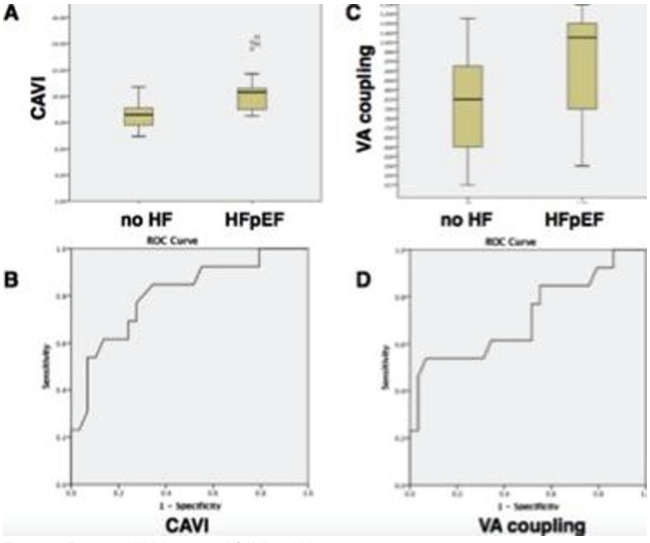

Figure 1. Box-and-Whisker plot of CAVI and V.

Conclusion: CKD patients with HFpEF have arterial stiffening and ventricular-arterial coupling beyond that associated with CKD. This finding may underlie pathophysiological role of HFpEF in this setting by exacerbating systemic load interaction with diastolic dysfunction, augmenting blood pressure liability resulting in rapid onset pulmonary edema.

P1473 | BEDSIDE
Will an interactive smartphone application improve self-care behavior and quality of life in patients with heart failure?

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Background: Despite the evidence of the beneficial effects of self-management interventions on mortality, hospitalization rate and quality of life (QoL) in patients with heart failure (HF), the search for the most effective programs continues. The aim of our study was to evaluate the effectiveness of an interactive smartphone application (app) based on the Russian version of the 9-item European Heart Failure Self-care Behaviour Scale (EHFScBS) for improving self-care management and QoL in patients with HF.

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