ventricle. Current guidelines target a reduction in LV end-diastolic diameter (LVEDD) of 15% compared to pre-LVAD dimensions, however there is significant heterogeneity in the degree of unloading achieved. We sought to investigate what factors predict optimal unloading at 6 months of LVAD support.

Methods: Data were retrospectively collected for 75 LVAD recipients at five time points: pre-LVAD, within 14 days post-LVAD, then at 1, 3 and 6 months. The percentage change in LVEDD comparing pre-LVAD and 6 months was termed ∆LVEDD. Optimal LV unloading was defined as ∆LVEDD of ≤-15% at 6 months. Patients who achieved optimal unloading (Group A, n=30) were compared with patients who did not (Group B, n=45).

Results: At 6 months, optimally unloaded patients (Group A) demonstrated higher fractional shortening (15±7% vs 10±7%, p=0.007), lower rates of moderate-severe mitral regurgitation (10% vs 33%, p=0.02) and lower pulmonary wedge capillary pressure (9±4mmHg vs 16±7mmHg, p=0.02). Right-ventricular (RV) dysfunction was more prevalent at 6 months in Group B patients (73% vs 43%, p=0.008). Between hospital discharge and 6 months, percentage increase in device speed was higher in Group A (ARPM 4.4±3.7% vs 0.1±2.6%, p<0.001). In a multivariate analysis, ARPM and RV basal diameter were independent predictors of 6-month ∆LVEDD.

Conclusion: Optimal unloading, defined as a reduction in LVEDD of 15% compared to pre-LVAD dimensions, is associated with improved mitral valve function and reduced PCWP. LVAD-induced RV dysfunction and failure to uptitrate LVAD pump speeds may predict patients with sub-optimal unloading.

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Predictors of Congestive Readmission Within 6 Months Following Acute Decompensated Heart Failure

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Introduction: Acute decompensated Heart Failure (ADHF) is frequently followed by rehospitalisation, with or without the repeat development of congestion. Prediction of the specific mode of readmission may inform rehospitalisation prevention programs. Hence, we sought to determine predictors of “congestive readmission” within 6 months of discharge, controlling for clinical factors, including comorbid acute kidney injury (AKI).

Method: Consecutive patients with ADHF admitted to a single tertiary centre (July 2015–July 2017) were included, with diagnosis adjudicated by the Boston Criteria. AKI was defined by KDIGO-criteria, at the time of admission (AKIADM) and the subsequent inpatient stay (AKIIP).

Results: Of 361 patients (median age 82 years, 55% male, 56% HFREF), 206 experienced readmissions episodes within 183 days; 40% of these were congestive readmissions. Univariate predictors of congestive readmission included admission creatinine (p<0.005), type 2 diabetes (p<0.02), severe LV-systolic dysfunction (p<0.03) and ischaemic heart disease (p<0.03). A multivariate regression model demonstrated that congestive readmissions were significantly associated with AKIADM (p<0.03; OR 2.20), but not with AKIIP.

Conclusion: Baseline characteristics of those experiencing congestive versus non-congestive modes of 6-month readmission appear to differ, with greater degrees of LV systolic dysfunction and a greater burden of diabetes and ischaemic heart disease. However, the association of AKIADM with subsequent congestive readmission is novel and the implications for risk-prediction and prevention should be further explored.

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Prevalence and Management of Cardiomyopathy in Adult Patients with Muscular Dystrophies

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Background: Cardiomyopathy is common in the setting of muscular dystrophy (MD). As life expectancy has improved with treatment of neuromuscular-associated respiratory failure, patients surviving into adulthood are at risk of developing cardiomyopathy. However, MD-associated cardiomyopathy is often underdiagnosed and undertreated.

Methods and results: We conducted a retrospective review of patients seen at the St Vincent’s Neuromuscular Cardiology and Heart Failure Clinics between February 2018–February 2019. Twenty six patients were identified, with diagnoses of Duchenne MD (n=18), Becker MD (n=3), limb girdle MD (n=2), congenital MD (n=2) and Emery Dreifuss MD (n=1).

Most patients were male (n=24, 84.6%) and non-ambulant, with mean age 24.7±7.1 years. Transthoracic echocardiograms had been performed in almost all patients (n=24, 93.2%) in the past 12 months. A left ventricular ejection fraction (LVEF) ≤53% was identified in a third of patients (n=8, 34.8%). More severe LV dysfunction with LVEF ≤40% was identified in 2 patients (7.7%). The majority of patients were prescribed an ACE inhibitor (n=22, 84.6%), while nearly half of the cohort were prescribed a beta blocker (n=12, 46.1%). Analysis of global longitudinal strain was performed in only a small proportion of patients (n=5, 4.2%) due to limited image quality in this patient cohort.