THE CHALLENGES AND OPPORTUNITIES OF STARTING A TARGETED USE OF RIGHT HEART CATHETERISATION IN HEART failure and optimise heart failure patients in the community with HFVW provides an exciting opportunity to monitor MRA and 44.8% on SGLT2i. The corona virus pandemic has resulted in a need to rethink how we manage patient care. Remote monitoring of patients using digital technology is an exciting option for supporting patients on discharge from hospital particularly in patients with heart failure as it may prevent decompensation events and provide opportunity to maximise prognostic medications for patients to improve prognosis. London North West University Healthcare NHS Trust (LNWUH) partnered with LUSCIITM a remote monitoring app that allows patients to upload daily observations and symptoms status to aid in symptom management and optimisation of medical therapy. We present an analysis of the first 198 days of our experience of launching our service. Methods and Results We performed a retrospective analysis of all patients admitted to the two acute sites with a presumed diagnosis of heart failure between July 19th 2021 and February 2nd 2022. A sub group between November 16th 2021 and February 2nd 2022 had an in-depth analysis of the reasons for not being recruited onto the HFVW. Figure 1 demonstrates the in-depth review. A total of 280 patients were admitted with a presumed diagnosis of heart failure, of these 142 (50.8%) were eligible for the HFVW. Of the 142 patients 24 (16.9% - approximately 1 in 6) patients who had a discharge diagnoses of heart failure were able to be recruited to the HFVW. Reasons for not recruiting the patient to the HFVW were divided into patient factors (frailty, compliance issues, need for specialised care, language barrier; n=97), technology related factors (no-access to smart phone, struggles with technology; n=72), patient refusal to be recruited (n=5). An individual patient may have more than 1 reason for not being recruited. Since the beginning of recruitment, a total of 64 patients have been recruited, mean age 62.0 ± 12.1 years, 48 (75.0%) male and 58 (90.6%) had HF with reduced ejection fraction. The patients on the HFVW had high prevalence of comorbidity; 45 (70.3%) had hypertension, 32 (50.0%) with Diabetes, 11 (17.2%) with chronic kidney disease and 28(43.8%) with ischaemic heart disease. Patient spent an average of 7.1 weeks (range 0.0 – 21.1 weeks) on the HFVW, a total of 26 (40.6%) have been successfully optimised, stabilised and discharged to community/OP HF services. 3 patients withdrew when on the HFVW. Eight of the 64 (12.3%) patients had an admission whilst on the HFVW, however only 1 (1.6%) was heart failure related in a patient who was refractory to ambulatory intravenous diuretics. 1 (1.6%) patient despite a biventricular pacemaker and defibrillator; being on optimised HF medications had a sudden cardiac death associated with refractory ventricular arrhythmia despite exhausted therapy from his implantable device. Patients with reduced ejection fraction on the HFVW were shown to have excellent medical therapy with 94.8% on ACEI/ARB/ARNI, 93.1% Beta-blocker, 56.9% on MRA and 44.8% on SGLT2i. Conclusion HFVW provides and exciting opportunity to monitor and optimise heart failure patients in the community with specialist support using digital technology. The patients recruited were predominantly patients with reduced ejection fraction and are highly co-morbid. There remain significant challenges to tackle digital exclusion to increase the proportion of heart failure patients recruited as currently only 1 in 6 patients are successfully recruited.

Conflict of Interest None

Abstract 114 Figure 1 Flow diagram of patient recruitment to HFVW

Introduction Circulatory shock is a life-threatening condition associated with in-hospital mortality rates as high as 45%. In some cases, there is a clear cause, when mechanical intervention such as revascularisation is often indicated. However, there is often a mixed picture with more than one underlying pathological mechanism. Right heart catheterisation (RHC) permits detailed evaluation of haemodynamics to enable better patient tailored therapy. ESC guidance suggests consideration of RHC in patients who, despite pharmacological treatment, have refractory shock or shock of unclear aetiology. Evidence from large registries is accumulating that RHC assessment in suspected cardiogenic shock is associated with favourable outcomes. To demonstrate the value of RHC assessment, ten patients with shock and a sub-optimal response to therapy or with suspected mixed pathology are reported.

Methods Retrospective analysis of ten patients who had RHC for shock of uncertain aetiology or not responsive to conventional therapy between June 2015 and 2020. Clinical course, therapy adjustment, survival to discharge, one month and one year were evaluated. Results Eight patients were male and median age was 69 (IQR 8.5). Each patient had a mean of five comorbidities – most commonly - type 2 diabetes, ischaemic heart disease and left ventricular systolic dysfunction. Prior to RHC, five patients were in Society for Cardiovascular Angiography and Intervention (SCAI) stage C shock and five in stage D. Nine had ongoing infusions of vasopressors or inotropes, with five on two agents. RHC studies significantly changed management in 8/10 patients. Five patients had therapy changes in the catheter lab allowing real time monitoring of invasive haemodynamics. RHC evaluation led to a change in diagnosis in 4/10
patients and confirmed cardiogenic shock in 6/10 patients (with adjustment in ongoing therapy in 4 of these patients). Six patients survived to discharge and 4/10 to one year post RHC. The mean procedure duration was 47 minutes, and one patient had a retroperitoneal haematoma, which was successfully managed conservatively before being discharged, with no other complications recorded. SCAI shock stage, higher heart rate, lower mean aortic pressure and higher mean right atrial pressure were associated with mortality prior to discharge, one month and one year post RHC.

Conclusions In patients with shock of uncertain aetiology, or suboptimal response to standard therapy, RHC can provide important haemodynamic information to help optimise management. This observational data suggests that RHC assessment in these circumstances is an important tool to help assess and adjust medical therapy. It appears to be associated with favourable outcomes to discharge in a cohort of critically ill, comorbid patients at high-risk.

Conflict of Interest Nil

ARTIFICIAL INTELLIGENCE FACILITATES MONITORING OF PATIENTS WITH HEART FAILURE IN THE LANCASHIRE OBJECTIVE VOLUME EVALUATION OF LEG OEDEMA IN HEART FAILURE PILOT RANDOMISED CROSS-OVER TRIAL (LOVE-HF)

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Background/Introduction Early detection of worsening congestion in heart failure (HF) patients can prompt timely interventions and potentially decrease hospital admissions. Accordingly, standard care recommendations include the monitoring of symptoms and daily weighing at home. However, most patients with worsening HF do not appear to weigh themselves during the weeks prior to the hospital admission. Up to half of hospital admissions were associated with moderate to severe peripheral oedema and that oedema was strongly associated with subsequent prognosis. This suggests a missed opportunity for clinicians to respond rapidly to early changes in congestion.

Purpose A camera-based technology linked to artificial intelligence software for remote home-monitoring of lower-leg volume was developed, that, unlike daily weights, does not require patient adherence. The main aims of our pilot randomised cross-over trial were to determine the feasibility of data-collection and blinding of randomisation and to estimate event rates to inform the design of future trials of the AI device.

Methods Single-centre, pilot, double-blind, randomised crossover trial in patients with HF at increased risk of decompen-sated HF requiring hospital admission. The main outcome measure was the proportion of participants that provided information on each available study day (ie: on the days they were alive and out of hospital over 30 days) of leg volume