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decreasing BMI and increasing NYHA class, age and NTproBNP.

Of the screening tools, CFS had the strongest agreement with assessment tools (kappa coefficient: 0.65–0.72, all $p < 0.001$). CFS had the highest sensitivity (87%) and specificity (89%) amongst screening tools and the lowest misclassification rate (12%) amongst all 6 frailty tools in identifying frailty according to the combined frailty index.

During a median follow-up of 559 days (IQR 512–629 days), 82(18%) patients died. 55% (N=45) of frail patients died of non-cardiovascular causes. Worsening frailty as detected by all 6 frailty tools was associated with worse outcome. A base model for mortality prediction including sex, NYHA class (III/IV vs I/II), BMI, log NTproBNP and haemoglobin had a C-statistics of 0.78. Amongst frailty tools: CFS and Fried criteria increased model performance most compared with base model (c-statistics: 0.80 for both). Patients who were frail according to CFS had a 9 times greater mortality risk than non-frail patients (figure 2).

Conclusion Frailty is common in CHF patients and is associated with worse outcome. CFS is a simple screening tool which identifies a similar group as lengthy assessment tools and has similar prognostic significance. Frailty screening should be incorporated into routine care of patients with CHF.

Conflict of Interest none

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CONTEMPORARY PROGNOSIS OF PATIENTS HOSPITALISED WITH A PRIMARY DIAGNOSIS OF HEART FAILURE: THE NATIONAL HEART FAILURE AUDIT OF ENGLAND & WALES

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Background The National Heart Failure Audit for England & Wales collects information on hospital deaths and discharges

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attributed primarily to heart failure. The data collection tool is web-based with >250 fields. Mandatory data include age, sex, deprivation-index, admission symptoms, aetiology and comorbidity, electro- and echo-cardiographic data, standard laboratory tests and discharge medications. Patients are followed up for re-admissions and deaths through linkage to national records.

Purpose To describe the contemporary in-patient and post-discharge mortality of patients with a primary death or discharge diagnosis of heart failure reported by hospitals in England & Wales, stratified by age, sex and left ventricular phenotype.

Methods Descriptive. Patient characteristics are described as medians with inter-quartile ranges. Time to event analyses using Kaplan-Meier.

Results Altogether, 157,682 unique patients (>75% of all relevant admissions) were entered into the registry between April 2014-March 2018, of whom 45% were women (median age of 82 (75–88) years; 56% with LVEF <40%) and 55% were men (median age of 78 (69–85) years; 74% with LVEF <40%). Amongst 45,772 patients surviving to discharge in 2017–18 with an LVEF <40%, 92% were discharged on a loop diuretic, 22% on digoxin, 72% on an ACE inhibitor, 23% on an ARB, 83% on an ACE inhibitor and/or ARB, 89% on a beta-blocker and 56% on an MRA. Patients who received disease-modifying agents were younger and had a better prognosis.

Age, but neither sex nor LVEF, was a strong determinant of both in-patient and post-discharge mortality. In-patient mortality ranged from 3.2% in those aged <45 years to 16.5% in those aged >85 years. One-year mortality for patients who survived to discharge ranged from 10.4% in those aged <45 years to 45.6% in those aged >85 years (figure shows age-stratified, post-discharge, one-year mortality for people enrolled 2014–17).

Conclusion More than 60% of people hospitalised primarily for heart failure in England & Wales are aged >75 years and most have a reduced left ventricular ejection fraction. Treatment and outcome are strongly influenced by age. In-patient and post-discharge mortality remain high for older patients hospitalised with a primary diagnosis of heart failure.

Conflict of Interest None

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EFFECTS OF SHORT-TERM OMISSION OR INCREASE IN LOOP DIURETIC THERAPY ON CARDIAC FUNCTION IN PATIENTS WITH CHRONIC, STABLE HEART FAILURE

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Background The effects of short-term variations in loop diuretic (LD) agents on haemodynamics in patients with chronic, stable heart failure has rarely been studied.

Purpose To investigate the effects of increasing or omitting LD for 48 hours on clinical, biochemical and echocardiographic variables in patients with chronic, stable heart failure and a reduced left ventricular ejection fraction (LVEF <50%).

Methods Patients were studied on two occasions and observed for 3 hours following oral administration of their usual daily dose of LD. Echocardiography, weight and blood pressure assessments were performed hourly.

Results Eight patients [mean age 67 (7) years, 75% NYHA I/II, 50% men, 25% in atrial fibrillation] were enrolled. Compared to omitting LD, increasing LD reduced plasma NT-proBNP (from 644ng/L to 369 ng/L; $p=0.017$), left ventricular end-diastolic volume (LVEDV, from 188 ml to 162 ml, $p=0.045$), left atrial volume (LAV, from 82 ml to 73 ml, $p=0.007$) and systolic (from 133mmHg to 116mmHg, $p=0.005$) and diastolic (from 74mmHg to 64mmHg, $p=0.043$) blood pressure, and increased haemoglobin (from 129 g/L to 136 g/L, $p=0.028$), haematocrit (0.40% to 0.42%, $p=0.04$), serum urea (6.3 mmol/L to 9.6 mmol/L, $p=0.008$) and the ratio of jugular vein diameter after Valsalva to that at rest by ultrasound (JVD ratio, from 5.6 to 6.6, $p=0.043$). There was no significant change in body weight, serum creatinine or LVEF.

Significant reductions on LVEDV and LAV and an increase in JVD ratio were evident within one hour from oral LD administration and persisted after 3 hours, without a change in body weight or blood pressure. These acute effects of LD administration on echocardiographic variables were more pronounced when patients had previously had their diuretic therapy omitted for 48h.