

**Purpose:** To describe the clinical profile of patients referred to the community HF initiative & determine the phenotype of HF with co morbidities & if associations exist between these variables & their subsequent HF diagnosis.

**Methods:** Data was collected on 48 patients referred via the community HF initiative. Nature & severity of symptoms & signs, including baseline medications, comorbid conditions & NTproBNP. Subsequent HF type based on ECHO is reported. Chi-square analysis was completed to identify associations between data & subsequent HF Type.

**Results:** Results reported on 48 referrals to the service. Majority of patients were female (67%, n=32), with a mean age of 82 years (+/- 10.2). 29% had 1 comorbidity, 33% 2 comorbidities, 22% with 3 comorbidities & 6.25% with 4 comorbidities (See table), with Atrial Fibrillation (AF) the most prevalent comorbid condition, in 61.7% of referrals. Mean NTproBNP on referral was 3261 pg/ml +/- 3550. Only 2 patients had an NTproBNP <250 pg/ml. Most patient referrals had no evidence of peripheral odema (61.4%, n=27) or an elevated Jugular Venous Pressure (85.4%, n=41). Median NYHA II (63.6%, n=28) with 1 patient reporting orthopnea & PND symptoms. 83% of patients referred were prescribed at least one disease modifying medication (See table). Subsequent echocardiography was performed in 36 referrals (75%). 53% of patients were diagnosed with HFpEF (n=19), 30.6% were found to have HFREF (n=11) & 17% (n=6) HFmrEF. Chi-Square analysis did not reveal any significant association between age, gender, past medical history, number of comorbid conditions, NTproBNP, presenting symptoms, NYHA Classification & subsequent HF type diagnosed on ECHO. 94% of patients on a Betablocker had a history of AF. In this small cohort, HFpEF patients were less likely to be treated with Beta-blocker therapies at baseline compared to HFREF & HFmrEF (p=0.020). There was a trend towards treatment with MRA's in patients with HFREF compared to HFmrEF & HFpEF patients (p=0.059).

**Conclusions:** The findings from this small study suggest that despite the absence of overt clinical signs of heart failure in this sample, majority being female with HFpEF, primary care providers are skilled at identifying HF in the community, illustrating the appropriateness of granting primary care providers in Ireland access to HF diagnostics & specialist care pathways.

#### Association between lipoprotein (a) level and chronic cardio-renal syndrome in patients with coronary artery disease

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**Objective:** Serum lipoprotein (a) (Lp(a)) level has been suggested as an independent risk factor for cardiorenal syndrome in patients with heart failure. The aim of this study was to assess the relationship between Lp(a) and cardio-renal syndrome in patients with coronary artery disease.

**Methods:** Patients with coronary artery disease were divided into four groups according to their glomerular filtration rate (eGFR) level and ejection fraction (LVEF) as (1) patients with reduced LVEF (<40%) and kidney function (eGFR <60 ml/min/1.73 m<sup>2</sup>), (2) patients with preserved LVEF and reduced kidney function, (3) patients with reduced LVEF and preserved kidney function and (4) patients with preserved LVEF and kidney function. The lipid profile including Lp(a) and major risk factors were compared between the four groups. The multivariate logistic regression analysis was used to evaluate the related risk factors associated with group 1 patients.

**Results:** A total of 484 patients (363 males [75%], aged 65 ± 12 years) were enrolled in the study. Reduced eGFR was detected in 17% of the patients. Age (r=0.51, p<0.001) and ALT (r=0.26, p<0.001) were significantly correlated with eGFR. Prevalence of diabetes was significantly higher in group 1 patients compared to other three groups (60% vs. 42%, p=0.027). Despite a slight tendency for reduced total and LDL cholesterol in group 1 patients, lipid levels were not statistically different between the four groups. Lp(a) levels were not different between group 1 patients (median Lp(a) in group 1 was 15 mg/dl vs. 16 mg/dl) than the other groups. There was no correlation between the Lp(a) and LVEF. In multivariate logistic regression analysis, only age and diabetes emerged as significant associates of cardio-renal syndrome.

**Conclusion:** Neither serum Lp(a) level nor other lipid parameters are associated with cardio-renal syndrome in patients with coronary artery disease.

#### Prevalence of iron deficiency and iron administration in left ventricular assist device and heart transplantation patients

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**Background:** /Introduction: Iron deficiency (ID) is a common comorbidity in heart failure (HF) patients and is associated with worse outcome. Treating ID with intravenous iron administration can improve clinical outcomes and quality of life. However, data on ID is lacking in advanced HF patients who have transitioned towards left ventricular assist device (LVAD) therapy or heart transplantation (HTx).

**Purpose:** This study aimed to assess the prevalence of iron deficiency and the use of oral and intravenous iron administration in a cohort of advanced HF patients undergoing LVAD implantation or heart transplantation.

	LVAD patients (N=84)	HTx patients (N=67)
Number of patients with known iron status pre-operatively	51 (61%)	34 (51%)
Number of patients with known iron status post-operatively	68 (81%)	56 (84%)
Number of patients with iron deficiency pre-operatively	27 (53%)	24 (71%)
Number of patients with iron deficiency post-operatively	48 (71%)	43 (77%)
Number of patients treated with iron administration pre-operatively	15 (29%)	16 (47%)
Number of patients treated with iron administration post-operatively	53 (78%)	42 (75%)

**Methods:** All patients who underwent LVAD surgery or HTx in our center between January 2012 and December 2019, aged ≥18 years with a follow-up of ≥3 months, were included. Iron deficiency was defined as either a serum ferritin level <100 ng/mL or a serum ferritin level between 100 and 300 ng/mL concomitantly with a transferrin saturation <20%. The prevalence of ID up to one year pre-operatively, and up to February 2020 post-operatively, was assessed retrospectively. Additionally, all iron administrations were registered during this time period.

**Results:** Eighty-four patients proceeding towards LVAD therapy and 67 patients proceeding towards HTx were analyzed. Iron status was assessed in 61% and 51% of the LVAD and HTx patients preoperatively, and 81% and 84% respectively, postoperatively. Of these patients, 53% and 71% of the LVAD and HTx patients were diagnosed with ID preoperatively, and 71% and 77%, respectively, postoperatively (see Table). ID was more frequently diagnosed >3 months postoperatively. Sixty-three percent of the LVAD patients (mostly intravenous) and 63% of the HTx patients (mostly oral) received iron administration.

**Conclusion:** Iron deficiency is highly prevalent pre- and post-LVAD implantation and HTx. Additional research is needed to investigate whether iron administration results in improved clinical outcomes and quality of life, as observed in regular HF patients, and whether iron administration holds additional value in LVAD and HTx patients.

#### Acute exacerbation of chronic congestive heart failure and cognitive impairment coexistence in elderly patients- the first echocardiographic measurements analysis.

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**Introduction:** The cardiovascular diseases, particularly heart failure (HF), have been defined as the risk factors of „cardiogenic dementia“. Nevertheless, the detailed echocardiographic assessment was not previously performed, either in stable patients with HF or patients hospitalized with the HF exacerbation.

**Purpose:** The aim of this study was to analyze the echocardiographic parameters in patients following HF decompensation with and without screening diagnosis of dementia (SDD).

**Methods:** 139 patients, age 65 or older, who were hospitalized between 2008 to 2017 with the diagnosis of HF decompensation were included. Detailed clinical characteristics with standard laboratory tests and extensive echocardiography parameters analysis were recorded at baseline. The obtained telephone follow up allowed to extract ones with SDD based on ALFI- MMSE with the score of <17 points.

**Results:** Patients with SDD were significantly older (median age: 76.5 vs 70.0 years, p=0.013), with higher presence of renal failure (57.1 vs 34%, p=0.018) and lower GFR (48.1 vs 59.9 ml/min/1.73m<sup>2</sup>, p=0.021). In laboratory test results lower haemoglobin level (12.9 vs 13.6 g/dL, p=0.041) and lower haematocrit (38.1 vs 40.8%, p=0.034) were detected. Based on echocardiography measurements, higher end-diastolic interventricular septum thickness (12.0 vs 11.0 mm, p=0.021), higher left ventricular posterior wall thickness (LVPW) (11.0 vs 10.0 mm, p=0.005), lower left ventricular end-diastolic volume (134.5 vs 177 ml, p=0.031) and higher maximum aortic gradient (9.0 vs 7.0 mmHg, p=0.013) were revealed in the group with SDD. In the multivariable analysis, the older age (β=-0.19, p= 0.003) and higher LVPW (β=-0.48, p= 0.035) were independently correlated with lower overall ALFI-MMSE score.

**Conclusions:** In patients following decompensated HF, older age and thicker LVPW independently influenced the occurrence of SDD. Moreover, the significant