

be prescribed loop or non-loop diuretics at discharge (Figure 1). Key predictors of successful decongestion at discharge were younger age, presence of peripheral edema, absence of mitral valve regurgitation and anemia, higher tricuspid annular plane systolic excursion, and baseline use of mineralocorticoid receptor antagonists (Figure 2).

**Conclusion:** In patients with AHF, full decongestion was achieved in approximately two-thirds of patients and was associated with specific clinical characteristics. Full decongestion was associated with a higher prescription of RASi/ARNi and a lower prescription of diuretics at discharge. Younger age, absence of mitral regurgitation, and no baseline loop diuretic use were significant predictors of successful decongestion.

Figure 2. Predictors of a successful decongestion

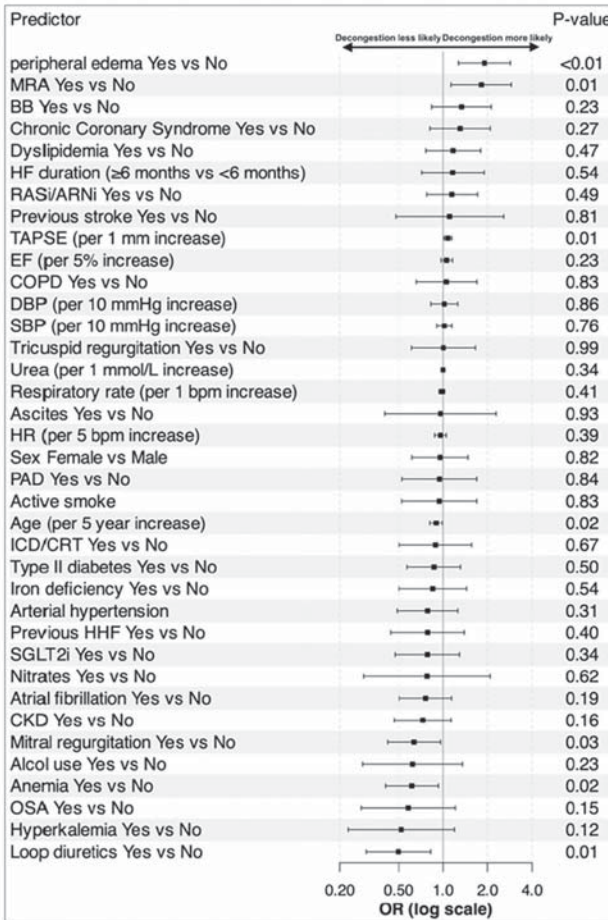


Figure 2

### Heart Failure - Acute Heart Failure, Treatment, Pharmacotherapy

#### Discharge medical treatment implementation in patients admitted for AHF: preliminary data from the BRING-UP3 HF study

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**On behalf of:** BRING-UP 3 Heart Failure Investigators

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**Background:** Recent ESC guidelines introduced a new treatment paradigm for HFrEF, with a novel four pillar therapeutic approach comprising ACE-I/ARBs/ARNi, Beta-blockers, MRAs, and SGLT2i. Furthermore, these guidelines for the first time give a Class IA recommendation for Empagliflozin and Dapagliflozin in HFmrEF and HFpEF. Evaluation of transferability of RCTs derived evidence to clinical practice and guideline recommendation implementation are two major issues. Hospital admission is considered an important chance for treatment optimization.

**Aims:** To describe discharge treatments of acute heart failure (AHF) patients enrolled by Italian cardiology sites participating to the nationwide BRING-UP3 HF study.

**Methods:** BRING-UP-3 HF study is an observational prospective, nationwide investigation involving 179 sites and enrolling ambulatory or hospitalized HF patients in two three-month periods, followed by a six-month follow-up with end-point evaluation. For HF with reduced ejection fraction (HFrEF), the objective is to describe the prescription rate of the four pillars. Baseline enrollment data for the hospitalized cohort (Phase I) are here presented. Overall, 1373 patients were included. Mean age was 71 ± 12 years (40.6% 75+ years) and 29.8% were females. A high percentage of patients (42.7%) had de novo HF. Patients with HFrEF were prevalent (70%), followed by HFpEF (16%) and HFmrEF (14%). History of hypertension, atrial fibrillation, diabetes mellitus, and chronic kidney disease was reported in 74.7%, 43.3%, 34.6%, and 32.6%, respectively. Medical treatment prescription on admission and at discharge among different groups of patients are shown in Figure 1. In HFrEF patients, an increase from the admission to discharge prescriptions of beta-blockers (60.1% to 92.4%), RASi (56% to 83.7%, with ARNi preferred over ACE-I/ARBs), MRAs (35.8% to 86%) and SGLT2i (29.3% to 75.0%) was observed. These prescription rates resulted in a high prescription of combination treatments with 56.7% receiving the four therapeutic pillars at discharge (Figure 2). Among HFmrEF and HFpEF patients, prescription rates of SGLT2i reached 55.5% and 44.8%, respectively.

**Conclusions:** A comprehensive analysis of a large sample of Italian cardiology centers revealed a high discharge prescription rate of guideline-recommended treatments across ejection fraction phenotypes.

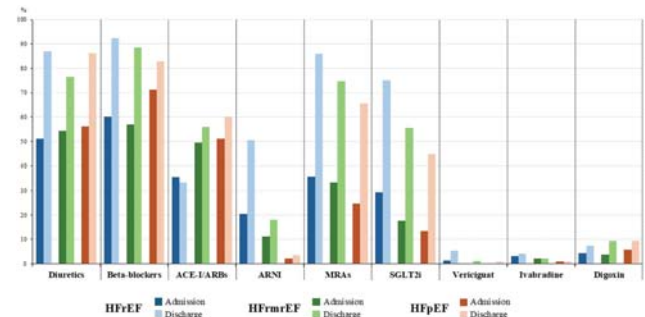


Figure 1

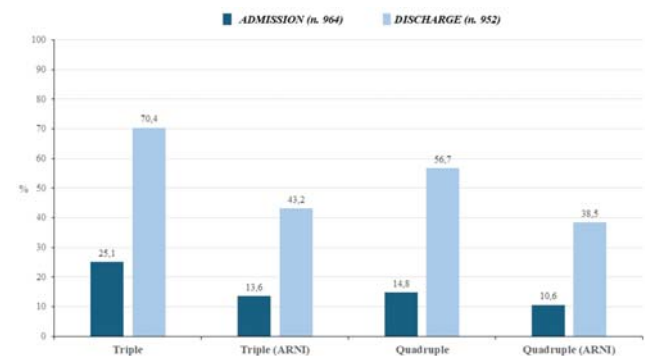


Figure 2

### Heart Failure - Acute Heart Failure, Treatment, Pharmacotherapy

#### Outcomes of urine sodium guided diuresis in acute heart failure: a preliminary analysis

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**Background:** Urine sodium level has been proposed as an indicator to guide diuretic regime to relieve congestion in acute heart failure (AHF). However, the experience and evidence of urine sodium guided diuresis is limited in real world practice.

**Objectives:** This study aims to compare diuretic outcomes, including urine volume and diuretic regime between patients with and without urine sodium level measured.

**Methods:** A total of 114 patients were included, divided into UrineNa (n=29) and Non-UrineNa (n=85) groups. For UrineNa group, urine sodium level was taken two hours after first furosemide dose was given. Demographic data, clinical parameters such as blood pressure, heart rate, urine output, creatinine levels, furosemide dose, and other diuretic use as well as comorbid conditions were analyzed. Urine volumes were measured at 6 and 24 hours post first furosemide dose given.

**Results:** This is our preliminary result. The mean age, gender distribution and key clinical parameters such as systolic and diastolic blood pressure, heart rate were comparable between the groups. Similarly, the prevalence of comorbid conditions, including hypertension, diabetes, dyslipidemia, ischemic heart disease, and chronic kidney disease, did not significantly differ between groups. There were no significant differences in mean creatinine (urineNa, 143 mmol/L versus Non-UrineNa, 141 mmol/L,  $p=0.294$ ) and urea (urineNa, 9.5 mmol/L versus Non-UrineNa, 8.9 mmol/L,  $p=0.294$ ) between the two groups. There were also no significant differences in mean urine output at 6 hours (urineNa, 1520 ml versus Non-UrineNa, 1419 ml,  $p=0.294$ ) and 24 hours (urineNa, 2874 ml versus Non-UrineNa, 2877 ml,  $p=0.763$ ) after the first furosemide dose between the two groups. The first 24 hours furosemide doses (urineNa, 124mg vs. Non-UrineNa, 133mg,  $p=0.447$ ) and use of adjunct diuretics were also comparable ( $p=0.417$ ). Mortality rates were no different in both group ( $p=0.234$ ).

**Conclusion:** The study found no significant differences in diuresis between cases with and without urinary sodium measurement guidance in the 1st 24 hours of AHF admission. However, these preliminary findings may not reflect the final outcome until the study is fully completed.

## Heart Failure - Acute Heart Failure, Treatment, Pharmacotherapy

### Initiation and titration of prognostic drug therapy during hospitalization for acute decompensation of heart failure with reduced ejection fraction

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**Background and Objectives:** Heart failure with reduced ejection fraction (HFrEF) is a leading cause of morbidity and mortality worldwide. Initiating or maintaining prognostic drugs during hospitalization is crucial, as early intervention can significantly influence the prognosis. Guideline-directed medical therapy (GDMT) includes renin-angiotensin-aldosterone system inhibitors (angiotensin-converting enzyme inhibitors (ACEI), angiotensin II receptor blocker (ARB), angiotensin receptor-neprilysin inhibitor (ARNI) and mineralocorticoid receptor antagonist (MRA)), beta-blockers and sodium-glucose cotransporter-2 inhibitors (SGLT2i), which have shown reductions in mortality and hospital readmissions. Our objective was to evaluate the percentage of patients achieving quadruple therapy during hospitalization, document reasons for non-achievement, and describe outcomes in special subgroups (chronic kidney disease (CKD) or advanced age).

**Methods:** We conducted a prospective single-center study from September 2021 to February 2024, including patients hospitalized for acute decompensated HFrEF with ejection fraction  $\leq 40\%$  treated by the Heart Failure Unit (HFU) of our hospital.

**Results:** 96 patients were included, with a mean age of 69.2 years. Common comorbidities included hypertension (70.4%), diabetes (41.8%) and CKD (35.2%). The median hospital stay was 8 days. At discharge, ACEI/ARB/ARNI were prescribed in 92.9% of patients, beta-blockers in 88.8%, MRA in 68.9%, and SGLT2i in 91.8%. A remarkable 58.2% of patients received quadruple therapy. In patients with eGFR < 30 mL/min, the use of beta-blockers and SGLT2i was not different to those with eGFR > 30 mL/min, and the use of RAASi was 68.4%. In the group of patients over 75 years old, with a higher frailty and comorbidities, there was a high rate of guideline-directed medical therapy at discharge with no statistically significant differences compared to patients under 75 years old, with the exception of the SGLT2i which were prescribed at a higher rate.

**Conclusions:** Our study highlights the tolerability and safety of GDMT initiation and titration in hospitalized patients with HFrEF. A substantial proportion of patients were successfully managed with quadruple therapy at discharge, underscoring the

importance of early intervention during the acute decompensation phase to optimize outcomes.

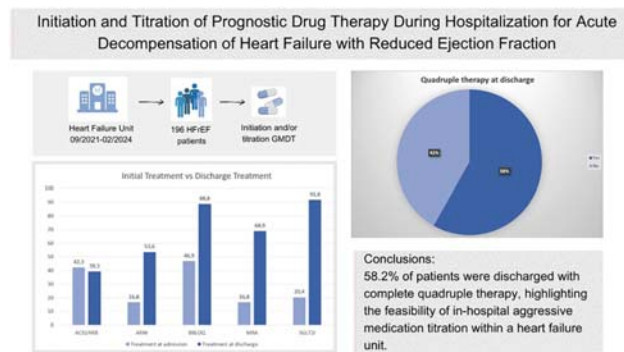
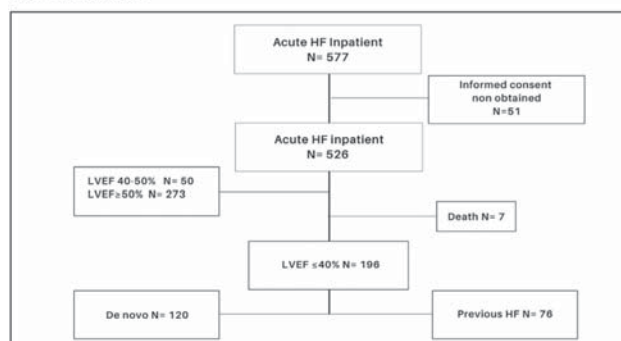


Figure 1. Flow chart



HF: heart failure; LVEF: left ventricular ejection fraction

## Heart Failure - Acute Heart Failure, Treatment, Pharmacotherapy

### Feasibility and limitations of early and accelerated therapy following acute decompensated heart failure

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**Introduction:** Growing evidences suggest that an early and accelerated therapy for the treatment of an acute decompensated heart failure (ADHF) episode may be recommended to reduce cardiovascular morbidity and mortality across the entire spectrum of ejection fraction (EF). In this context the EMPULSE study indicates that empagliflozin use in patients hospitalized for an acute episode of heart failure is well tolerated, as well as TRANSITION study demonstrated that initiation of Sacubitril/Valsartan in patients with HF with reduced EF hospitalized for an acute decompensated episode is feasible and safe.

**Purpose:** The aim of our study is to establish safety and tolerability of an early and accelerated therapy, focusing particularly on the four pillars, during an hospitalization for ADHF.

**Methods:** We retrospectively collected data from 178 consecutive patients admitted from the Emergency Room to our Department with a diagnosis of heart failure from August 2023 to April 2024. We compared in particular the utilization of the four pillars at admission and at discharge, together with data of systolic arterial pressure, creatinine, glomerular filtration rate (GFR), kaliemia, and haemoglobin values at admission with those at discharge.

**Results:** Patients had a mean age of  $76.1 \pm 11$ , and 62% were male. The mean BMI was  $27.1 \pm 4$  and 29% of the patients had diabetes. Patients with HFrEF represent 39.9% of the total, HFmrEF 23% and HFpEF 37.1%. The utilization of ACEI/ARB and ARNi at admission was 58,35% up to 82,58% at discharge. Of note among patients with HFrEF Sacubitril/Valsartan prescription increased from 31% to 69%. SGLT2 inhibitors use at admission was 23% up to 75,8% at discharge. Beta-blockers utilization increased from 65.7% to 87.6%. MRA usage rises remarkably from a 32,5% to 80,3%. Both haemoglobin values and systolic arterial pressure significantly