Title: Utilization of Guideline Directed Medical Therapy in Heart Failure Patient with Reduced Ejection Fraction Upon Discharge

Category: Heart Failure and Cardiomyopathies

Abstract

Background: Heart failure (HF) is a complex clinical syndrome that results from any structural or functional impairment of ventricular filling or ejection of blood. It is a major cause of morbidity and mortality worldwide and has a significant negative impact on quality of life, health-care costs, and longevity. Guideline directed medical therapy (GDMT) is the mainstay of pharmacological therapy for HF patients with reduced ejection fraction (HFrEF) in the absence of any contraindications or intolerance. In HFrEF, GDMT includes angiotensin converting enzyme inhibitors (ACEI) (or angiotensin receptor blockers (ARB) in ACEI-intolerant patients) and beta blockers (BB) in all patients as well as aldosterone receptor antagonists (ARA), digoxin, nitrates and hydralazine in select patients. Few studies have evaluated the frequency of initiating or discontinuing GDMT in hospitalized HF patients or the effect of GDMT modification on mortality. The aim of the study was to observe the modification patterns of GDMT in hospitalized patients with HFrEF and investigate the patient characteristics, comorbidities, and exam the laboratory findings that predicted the initiation or discontinuation of GDMT during hospitalization.

Methods: A retrospective observational study was performed for all adult patient with HFrEF (EF ≤ 40%) who were hospitalized from January 2016 until June 2017. The medication for each patient was recorded at two points in time: directly after admission to hospital (Home medication that documented in the admission note) and upon discharge (discharge medication, identified from discharge prescription). The primary endpoint was the modification of GDMT in hospitalized heart HF patients upon discharge. Patient characteristics and GDMT use were compared using the Pearson chi-square test for categorical variables and the t-statistic for continuous variables.

Results: Among 260 patients who were admitted with HF- from January 2016 to June 2017. One hundred and fifty patients met the inclusion criteria, of which 8 patient died and were excluded. One hundred and forty-two were analyzed. The mean age was 61±15 years and 70% were male. Seventy-one percent were admitted as case of acute decompensated heart failure (ADHF), 58% had ischemic heart diseased, 72% were hypertensive patients, and 23% had sever reduced ejection fraction (EF: <20%). A class III New York Heart Association functional classification was observed in 50% of patients. Modification of GDMT occurred in up to 23% of cases. There was an increased in the prescription rate of ACEIs/ARBs between admission and discharge (54% vs. 70%), whereas Beta-blockers and spironolactone prescriptions also increased (65.5% vs. 91.5% and 25% vs. 39%, respectively). The digoxin prescriptions rate remaining the same between admission and upon discharge (7% vs. 7.7%).

Conclusion: Despite the well-established role of GDMT for chronic HF management, many hospitalized patients with HF are discharged in suboptimal GDMT. The study will further investigate the predictors and the outcomes associated with GDMT modification.