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Editorial

Prevention of early readmission after acute decompensated heart failure

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Acute heart failure (AHF) is a global pandemic with more than one million admissions to hospital annually in the USA and millions more worldwide [1,2]. Post-discharge event rates remain exceptionally high. Although global clinical trials and national hospitalized HF registries have not led to the development of new therapies to improve mortality and readmissions in patients with AHF, they have significantly improved our understanding of patients with this complex syndrome [1].

Early readmission within 30–90 days is a common problem that affects about one quarter of AHF patients after discharge from hospital [3]. There is a trend for higher readmission rate in heart failure with reduced ejection fraction (HFrEF) than in heart failure with preserved ejection fraction (HFpEF) [4] and about half of these admissions are due to non-cardiac causes [5]. Two-thirds of readmissions within 30 days of a hospitalization for HF are for non-HF primary issues, regardless of EF [6]. Co-morbidities are highly prevalent in this population, and not only they precipitate re-hospitalization, but uncontrolled co-morbidities worsen HF over time [7].

In this issue of the journal Palazzuoli et al. [8] from Italy discuss, in an excellent review, the different aspects of early readmission after hospital discharge of AHF patients focusing on the vulnerable period for readmission (early 30 days) followed by a plateau period of another 30 days and another peak from 60 to 90 days. The authors also discuss the conclusions of Gheorghiade at al. [9] who made a descriptive analysis of the baseline, in-hospital and post discharge clinical, laboratory, and neurohormonal characteristics of patients hospitalized for HF. The detailed clinical profile of patients may facilitate whom to target for early post-discharge follow-up. Low systolic blood pressure, low serum sodium, decreased renal function, higher heart rate, worsening orthopnea, increased levels of neurohormones such as antidiuretic hormone and aldosterone, and lower albumin levels might be used for a rapid risk stratification in routine clinical practice.

Furthermore, the authors also stress the role of cardiac and noncardiac comorbidities in early readmission and the importance of many prognostic factors and novel biomarkers in prediction of patients who will need more close follow up in the post discharge vulnerable period. They go on discussing the current therapeutic targets of AHF and their relation to mortality and rehospitalization. In particular, they stress the need for new targets of therapy and the potential strategies to reduce re-hospitalization rate including tele monitoring, use of invasive hemodynamic evaluation and early initiation of therapy. The authors conclude that, although there might be several reasons for early readmissions, in many cases these might be effectively prevented by a more adequate post-discharge management, including recommendations on lifestyle and rehabilitation programs.

The use of US policy intervention Hospital Readmission Reduction Program (HRRP) applying financial penalties to those hospitals with higher readmissions, reduce readmission rates, but are associated with an increase in HF mortality. Therefore, incentives to reduce readmissions can potentially encourage inappropriate care strategies and may adversely affect patient outcomes [10].

Finally, the problem of early readmission after AHF discharge has many gaps of knowledge that need future studies and clinical trials. These gaps include:

1. Biochemical and hemodynamic changes in the vulnerable period;
2. The role of social support and socioeconomic status in prevention of early readmission;
3. The role of multi-disciplinary team in decision making regarding discharge time and post discharge care;
4. The value of risk assessment algorithms in prediction of early readmission and design of post discharge care and there is currently no validated well-performing risk score accepted for accurately identifying patients at high risk for mortality and early readmission;
5. Inter hospital difference in management and discharge strategies and HF patient volume.

Filling these gaps of knowledge would help the development of efficacious programs to reduce the problem of early readmission and its social and economic burden.

Disclosure

No conflict of interest.

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