EDITORIAL

Improving outcomes in heart failure requires improving implementation of heart failure therapy

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In the 1970s and 1980s, clinicians observed that heart failure (HF) got worse spontaneously, independently of the initial insult. This led to the neurohormonal hypothesis, in which compensatory neurohormonal responses are considered maladaptive in the long run, causing further maladaptive remodeling in a vicious circle. Since the 1980s, numerous trials have demonstrated that neurohormonal antagonism improves outcomes in HF with reduced ejection fraction (HFrEF). There has been substantial advancement in evidence-based interventions for this type of HF. Indeed, randomized controlled trials in HFrEF demonstrated that drug and device therapy reduced mortality by 10% to 40%,[1,2] and until 2000, survival in HF had improved consistently.[3] After the year 2000, there have been further additions to the HF treatment armamentarium, but the improvements in prognosis may have flattened out.[4] Angiotensin receptor–neprilysin inhibitors (ARNIs) demonstrated superiority to angiotensin-converting enzyme inhibitors,[5] but the extent of implementation of ARNI therapy is still poorly studied. To further improve outcomes in HF, efforts need to be directed at improving implementation of current guideline–recommended evidence-based treatments in HFrEF.

In this issue of *Polish Archives of Internal Medicine* (*Pol Arch Intern Med*), Balsam et al[6] report on the clinical profile, HF treatments, outcomes, and predictors of mortality and hospital readmissions in hospitalized patients with HF in Poland, using data from the European Society of Cardiology Heart Failure Pilot Survey (ESC-HF Pilot) and Long-Term Registry (ESC-HF-LT). The primary endpoint of the study was all-cause death at 1 year, and the secondary endpoint consisted of all-cause death or hospitalization for worsening HF at 1 year. The authors compared data from the years 2009 to 2010 and 2011 to 2013. Despite the relatively little time difference between the 2 study periods, the authors showed that patients from the later period had a lower risk of death or HF hospitalization (secondary endpoint) despite older age and more comorbidities. The authors speculated that their findings may be a result of better implementation of guideline-recommended HF management.

Optimizing the existing evidence-based guideline-recommended therapy is a challenge in HF care. A study from the Swedish Heart Failure registry describing HF treatments and mortality rates between 2002 and 2012 found no difference in adjusted mortality over time and a high use of HF medication with very little changes in treatments over time. However, the use of device therapy, in particular cardiac resynchronization therapy (CRT), was very low, indicating poor awareness concerning device therapy in HF as compared with medical treatment.[4,7] Balsam et al[6] included the whole ejection fraction spectrum in their study, making it harder to evaluate the adherence to guideline therapy specifically for HFrEF. However, the percentage of HFrEF patients was stable between the 2 study periods and the number of patients treated with HF medication at discharge did not change significantly. The number of patients with implantable cardioverter-defibrillator and CRT at discharge increased 3-fold between the 2 study periods, which may result from improved awareness and accessibility to device therapy in Poland.

Interestingly, in the present study, the use of intravenous diuretics during hospitalization was lower in the later period despite the increasing knowledge that proper decongestion is important for outcomes. However, these are unadjusted numbers and could of course reflect that patients in the later period were admitted with less HF decompensation.

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Nurse-based HF clinics and structured exercise programs are not discussed in the article and there is no information on planned follow-up for patients at discharge. An increased use of nurse-based follow-up would possibly explain a decrease in HF hospitalizations. However, Balsam et al[6] reported that outpatient HF clinics are not common in Poland, and therefore patients are hospitalized to a greater extent than in other countries.

Quality registries such as the ESC-HF registries have become important parts of standardization of care and they are useful tools to identify levels of adherence to guideline-recommended therapy. Furthermore, a study showed that enrollment in a HF quality registry was associated with improved survival, partly due to better HF care provided for patients enrolled in registries.[8]

In conclusion, the study by Balsam et al[6] shows encouraging results for Polish HF care. While innovators continue to bring new interventions to the market and into guidelines, it is equally important that clinicians use existing, often generic and inexpensive, treatments.[9] Implementation of HFrEF therapy varies considerably around the world, but these data from Poland suggest, if not prove, that implementation and uptake of existing and emerging treatments contribute to improved outcomes over time.

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