Management of heart failure: are specialists really needed?

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This editorial refers to ‘Extended heart failure clinic follow-up in low-risk patients: a randomized clinical trial (NorthStar)’1, by M. Schou et al., on page 432

Heart failure (HF) is regarded as one of the major medical challenges of our time given the increasing prevalence and impaired quality of life, high morbidity, mortality, and socio-economic burden.1 As a consequence, disease management programmes for patients with HF have been implemented in many countries. The goal of these programmes is to optimize care and to deal with the complexity of the management of HF in a multiprofessional manner and, thereby, improve patient adherence and decrease hospital readmission and mortality.3–5 As a part of these programmes, HF outpatient clinics (HFCs) have been established which usually include a specialized HF cardiologist, HF nurses, and other HF-related experts.2 The basic tasks of these HFCs include diagnostic services, establishment of an optimal evidence-based drug therapy, and patient education on the disease per se and on self-care behaviours.6 This understanding of fundamental HF care was substantially extended recently. Figure 1 illustrates the complexity of HF management. Based on the development of devices, and interventional and surgical therapies, HF specialists are increasingly challenged with new tasks.7 New implantable cardioverter-defibrillators (ICDs) and cardiac resynchronization devices (CRT) offer the possibility to measure diagnostic variables such as intrathoracic impedance as a variable of thoracic fluid content which helps to optimize diuretic therapy.8 The high burden of co-morbidities such as renal failure or chronic obstructive pulmonary disease (COPD) requires a close cooperation with other specialists (e.g. nephrologists or respiratory physician) to treat HF patients optimally.9 Psychosocial disorders including depression and cognitive dysfunction are increasingly recognized which need specific care by psychologists.10,11 Furthermore, HF experts are confronted with growing numbers of patients with left ventricular assist devices and their specific demands.12 Therefore, the old concept of HF treatment mainly consisting on up-titration of drug therapy and adjustment of diuretic doses has undergone fundamental changes.

With these considerations in mind, Schou et al. have now presented the results of the NorthStar study which investigated the value of an extended follow-up in low-risk patients with HF.13 In 18 HFCs in Denmark, the authors enrolled 921 systolic HF patients on optimal medical therapy, fulfilling the criteria for clinical stability defined as constant doses of diuretics, stable New York Heart Association (NYHA) class, and lack of symptoms of volume overload. The primary endpoint was a composite of death from any cause or hospitalization for cardiovascular cause. Patients were equally randomized either to an extended follow-up programme in the HFC or to the usual care by a general practitioner (GP). While in the usual care arm treatment was performed according to the individual decision of the patients and their GP, patients in the extended HFC arm had regular visits at least at 3-month intervals. The additional care in this arm consisted of typical diagnostic and therapeutic services, including adjustment of diuretic doses, management of co-morbidities, and the possibility of telephone consultations with a HF nurse. After a median follow-up period of 2.5 years, the incidence of the primary endpoint was not significantly different between both groups (177 events in the HFC group vs. 159 events in the usual care group, \( P = 0.148 \)). Even high-risk patients with an N-terminal pro brain natriuretic peptide (NT-proBNP) concentration \( \geq 1000 \) pg/mL at study enrolment did not benefit from the extended care in the HFC. Furthermore, no effects were observed regarding secondary endpoints such as overall admissions, admission days, and changes of NT-proBNP or NYHA class. However, in patients treated in the HFC, rates of aldosterone receptor antagonist initiated and changes in diuretic regimen were significantly higher, while other drug changes and device implant rates were equally distributed between the groups.

The NorthStar study investigated for the first time whether and when patients can be referred back to their GP. In view of rising numbers of HF patients, a re-thinking of patients’ management is urgently needed to ensure that each patient receives appropriate care and to avoid under- or overtreatment. Therefore, the findings of the NorthStar study are important; however, some points of...
this study have to be commented on before considering the possible implications of these results. First, recruited patients have already been treated in a HFC for an average of 9 months. It has been shown that patients with new-onset or acute worsening HF have a better outcome if they are treated in a HFC.14 The NorthStar study enrolled those patients who were already optimized concerning pharmacological and non-pharmacological therapy. Therefore, the key procedures of HFCs for improving outcome were available in both the extended care and the control group. Secondly, the patients were, at the time of inclusion, in a clinically stable state with mild symptoms of heart failure. Almost all of the patients (89%) were in NYHA class I–II, which is confirmed by a low number of patients with an ICD (8%). According to current guidelines, high rates of ICDs would be expected in a more severe HF population.6 However, the rate of all-cause death or hospitalization for worsening HF was 28% in the whole study population during a median follow-up of 2.5 years. Despite the mild degree of HF, the event rate has to be considered within the expected range compared with recent HF studies.15,16 An intervention of any kind needs to have a substantial impact to produce any change in those mildly symptomatic patients. The small differences in the adjustments of diuretic therapy between both groups might not have been powerful enough to prevent hospitalization. The third remark brings back the dilemma of many studies on disease management programmes in HF: the exact supportive care in the HFC was neither well defined nor well controlled, causing a certain heterogeneity of care between the 18 study centres involved in the NorthStar study. We do not know from this study if a specific pharmacological or non-pharmacological intervention might have an additional benefit above the usual care by a GP, as not all enrolling centres might have done this. Moreover, non-pharmacological interventions such as supportive telephone contact were suggested but not demanded in the protocol. How many patients really used those interventions is not presented. Studies investigating the effect of disease management programmes in HF can only be compared to a limited extent due to differences in investigated populations, study designs, and modalities of intervention such as the way of conducting home monitoring.4 A recent meta-analysis suggested that structured telephone support and telemonitoring are both capable of reducing HF-related hospitalizations.17 The value of other supportive care such as patient education remains difficult to assess, although it is generally recommended by current guidelines.6

What conclusions can be drawn from the NorthStar study and in what way is current knowledge on the management of HF advanced? In view of the above-mentioned points, it is important to interpret the findings of Schou et al. appropriately. It does not
raise any doubts on the effectiveness of the disease management programmes or HFCs for patients with HF in general. Moreover, it may even confirm the work of the HF specialist, as it could be postulated that patients in the NorthStar study responded so well to the initial treatment in the HFC that the further management could be carried out by a GP. Looking at the screening procedure of the NorthStar study, 921 of 6180 patients were finally enrolled, which were the ‘Best-of-class’ of each HF clinic characterized by mildly symptomatic HF with good response to initial treatment. The remaining patients who were not included are probably those with a higher severity of HF, being unstable and therefore at high risk for re-hospitalization and death. Treatment of those patients is much more complex. In summary, the authors should be congratulated for designing and conducting this study, providing evidence that low-risk HF patients on optimal medical therapy may be safely managed by GPs after initial treatment in a HFC. To ensure optimal treatment, a close and ongoing cooperation between the GP and the HFC is needed. The focus of HFCs should be the patients with high symptomatic or worsening HF as is recommended by the current European Society of Cardiology guidelines.6

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References