The Palliative Care in Heart Failure Trial: Rationale and design

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Background The progressive nature of heart failure (HF) coupled with high mortality and poor quality of life mandates greater attention to palliative care as a routine component of advanced HF management. Limited evidence exists from randomized, controlled trials supporting the use of interdisciplinary palliative care in HF.

Methods PAL-HF is a prospective, controlled, unblinded, single-center study of an interdisciplinary palliative care intervention in 200 patients with advanced HF estimated to have a high likelihood of mortality or rehospitalization in the ensuing 6 months. The 6-month PAL-HF intervention focuses on physical and psychosocial symptom relief, attention to spiritual concerns, and advanced care planning. The primary end point is health-related quality of life measured by the Kansas City Cardiomyopathy Questionnaire and the Functional Assessment of Chronic Illness Therapy with Palliative Care Subscale score at 6 months. Secondary end points include changes in anxiety/depression, spiritual well-being, caregiver satisfaction, cost and resource utilization, and a composite of death, HF hospitalization, and quality of life.

Conclusions PAL-HF is a randomized, controlled clinical trial that will help evaluate the efficacy and cost effectiveness of palliative care in advanced HF using a patient-centered outcome as well as clinical and economic end points. (Am Heart J 2014;168:645-651.e1.)

Heart failure (HF) currently affects >5 million Americans.[1] Despite recent therapeutic advances, patients with advanced disease have not only physical effects but also psychosocial and spiritual distress.[2,3] Selected patients are candidates for aggressive treatments such as cardiac transplantation or mechanical circulatory support,[4] but the application of these therapies to the broader HF population is limited by constrained resources and their untested efficacy in frail and elderly patients with significant comorbidities. The progressive nature of HF coupled with high mortality rates and poor quality of life mandates greater attention to palliative care as a routine component of HF management.[5]

Palliative care is a multidisciplinary approach that focuses on providing patients with relief from the symptoms, pain, and stress of living with a serious illness, at any stage of that illness.[6] The goal is to improve quality of life for both the patient and family. Despite consensus-panel and guideline recommendations to combine palliative care with evidence-based HF therapies in the later stages of the disease,[7,8] the integration of palliative care into the HF treatment paradigm has been limited by several challenges.

First, an unpredictable disease trajectory makes prognostication difficult. Despite validated multivariable models to predict survival in HF,[9,10] physicians are frequently unsure whether they are caring for a patient near or far from the end of life. Patients have even a harder time and are typically overly optimistic about their survival.[11] Prognostic uncertainty poses a challenge as to when palliative care interventions should be implemented, particularly for physicians who equate palliative care with end-of-life care. Clinicians may experience turmoil from competing perspectives related to this prognostic uncertainty, current recommendations to institute palliative care earlier during the disease course, and the fear of

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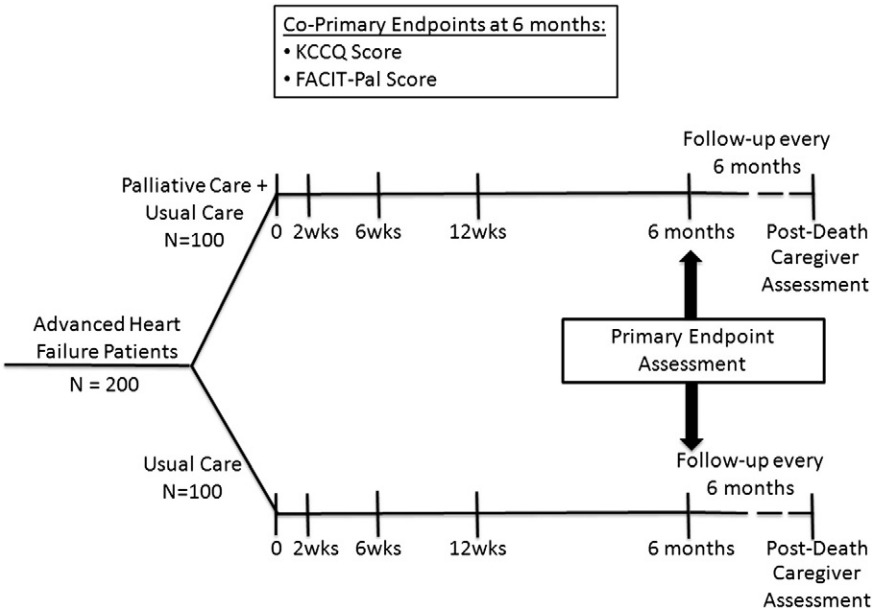
Figure



Trial design.

being viewed as "giving up" on life-prolonging care. Second, cardiologists typically lack formalized training in the principles of palliative care. Nurses are more likely to have formal training in palliative care, and there has been a recent call to increase the involvement of nurse practitioners (NPs) in the palliative care team.[12,13] Third, the design of care delivery in many health systems does not accommodate palliative care interventions that cross boundaries from acute settings to home.[14] Finally, until recently, limited evidence was available regarding the benefit of palliative care interventions in HF,[15] and most studies focused on resuscitation preferences.[16-18] It was less clear which HF patients benefit from palliative interventions and which interventions improve quality of life and achieve outcomes desired by patients and family members.[7] However, multiple recent pilot studies in HF populations have suggested that palliative care may reduce symptom burden and improve quality of life.[19-21] These studies have highlighted the importance of symptoms such as anxiety and depression in HF patients in addition to the commonly recognized symptoms of fatigue, dyspnea, and nausea. In addition, the publication of a randomized trial of palliative care in stage 4 lung cancer that showed improved patient outcomes and reduced costs [22] has led to increased interest of whether similar results can be found in other common diseases such as HF. These studies provide the foundation and rationale for a large-scale randomized HF trial sufficiently powered to assess the effect of palliative care on outcomes.

To help create this body of evidence, the National Institute of Nursing Research (NINR) has funded the PAL-HF trial to evaluate whether a multidimensional palliative care intervention improves health-related outcomes relative to usual care alone in advanced HF patients with a high expected short-term mortality (ClinicalTrials.gov identifier: NCT01589601). This article describes the design and rationale of the PAL-HF trial (Figure). Of note, the NINR is currently funding multiple clinical trials and research projects related to palliative care (see http://projectreporter.nih.gov).

Methods

Overall design

PAL-HF is a prospective, controlled, 2-arm, single-center clinical trial of 200 advanced HF patients with >50% predicted 6-month mortality randomized in a 1:1 ratio to usual contemporary HF care or usual care combined with the PAL-HF intervention. Subjects are assigned treatment using a complete randomization scheme.[23] The palliative care intervention focuses on symptom relief, attention to spiritual concerns, and advanced care planning. The trial is unblinded because it is not possible to execute a double-blinded trial of the PAL-HF intervention given that the intervention is a multidisciplinary team. The duration of the intervention is 6 months, but patients in both groups are followed up until death or the end of the study (approximately 4 years). The primary end point is health-related quality of life. The authors are solely responsible