

Burden of Comorbidities and Functional and Cognitive Impairments in Elderly Patients at the Initial Diagnosis of Heart Failure and Their Impact on Total Mortality



The Cardiovascular Health Study

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CME Objective for This Article: After reading this article, the reader should understand: 1) the prevalence of comorbidities and functional and

cognitive impairment in patients newly diagnosed with heart failure; and 2) the implications of these data related to clinical practice and future research.

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ABSTRACT

OBJECTIVES The purpose of this study was to determine the prevalence of clinically relevant comorbidities and measures of physical and cognitive impairment in elderly persons with incident heart failure (HF).

BACKGROUND Comorbidities and functional and cognitive impairments are common in the elderly and often associated with greater mortality risk.

METHODS We examined the prevalence of 9 comorbidities and 4 measures of functional and cognitive impairments in 558 participants from the Cardiovascular Health Study who developed incident HF between 1990 and 2002. Participants were followed prospectively until mid-2008 to determine their mortality risk.

RESULTS Mean age of participants was 79.2 ± 6.3 years with 52% being men. Sixty percent of participants had ≥ 3 comorbidities, and only 2.5% had none. Twenty-two percent and 44% of participants had ≥ 1 activity of daily living (ADL) and ≥ 1 instrumental activity of daily living (IADL) impaired respectively. Seventeen percent of participants had cognitive impairment (modified mini-mental state exam score < 80 , scores range between 0 and 100). During follow up, 504 participants died, with 1-, 5-, and 10-year mortality rates of 19%, 56%, and 83%, respectively. In a multivariable-adjusted model, the following were significantly associated with greater total mortality risk: diabetes mellitus (hazard ratio [HR]: 1.64; 95% confidence interval [CI]: 1.33 to 2.03), chronic kidney disease (HR: 1.32; 95% CI: 1.07 to 1.62 for moderate disease; HR: 3.00; 95% CI: 1.82 to 4.95 for severe), cerebrovascular disease (HR: 1.53; 95% CI: 1.22 to 1.92), depression (HR: 1.44; 95% CI: 1.09 to 1.90), functional impairment (HR: 1.30; 95% CI: 1.04 to 1.63 for 1 IADL impaired; HR: 1.49; 95% CI: 1.07 to 2.04 for ≥ 2 IADL impaired), and cognitive impairment (HR: 1.33; 95% CI: 1.02 to 1.73). Other comorbidities (hypertension, coronary heart disease, peripheral arterial disease, atrial fibrillation, and obstructive airway disease) and measures of functional impairments (ADLs and 15-ft walk time) were not associated with mortality.

CONCLUSIONS Elderly patients with incident HF have a high burden of comorbidities and functional and cognitive impairments. Some of these conditions are associated with greater mortality risk. (J Am Coll Cardiol HF 2015;3:542-50)
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Hear failure (HF) afflicts 5.7 million individuals in the United States, with 80% of those afflicted ≥ 65 years of age (1,2). Both incidence and prevalence of HF are high among the elderly (3). Elderly patients with HF have high mortality rates, with 1- and 5-year mortality rates of 20% and

59%, respectively, among HF patients 65 to 74 years of age (1,3,4). Elderly patients frequently have multiple chronic diseases (comorbidities) and functional and cognitive impairments (5). These conditions may precede HF or develop during its course, and often negatively impact its outcome (6,7). Several

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