

In heart failure, a stronger heart could spell worse symptoms

20 November 2018

Heart failure patients fall into two general categories: those with weaker hearts, and those with stronger, but stiffer hearts that continue to eject the normal volume of blood with every beat. Although their hearts have different pump strength, new research shows that both groups suffer from similar levels of physical and cognitive impairments after a hospitalization for their heart failure, and that surprisingly, patients with stronger hearts have higher rates of depressive symptoms and lower quality of life.

"The results speak to how bad [heart failure](#) is across the board," says senior author Gordon Reeves, MD, Associate Professor of Cardiology at the Sidney Kimmel Medical College at Thomas Jefferson University. "Heart failure is one of the most common reasons for [older patients](#) to be in the hospital and the issues experienced as a consequence of a [heart](#) failure hospitalization can have a huge effect on their daily function and independence. This appears to be true regardless of the pumping function of the heart and, in some regards, may actually be worse in those in whom the squeezing function is preserved." The results were published online in the journal *Circulation: Heart Failure*.

Many treatments for heart failure—for example medications like angiotensin converting enzyme inhibitors or beta blockers, and certain types of pacemakers,—are only effective in patients with weaker hearts, those with a so-called reduced [ejection fraction](#) (rEF), meaning the main pumping chamber of their heart pumps out or ejects a smaller portion of blood than it should with each heartbeat. Heart failure in patients with stronger hearts, those with preserved ejection fraction (pEF), is actually the most common form of heart failure in older adults and is more likely to affect women, but there are far fewer effective therapies currently available.

"This research gives us a much clearer picture of

the symptoms and potential barriers to successful care affecting older patients with both reduced and preserved ejection fractions following a heart failure hospitalization, and gives us new insight into the interventions that might improve their quality of life and clinical outcomes," said Dr. Reeves.

Dr. Reeves and colleagues from the coordinating center, Wake Forest School of Medicine, and Duke University Medical Center analyzed data from the first 202 patients enrolled in the ongoing multi-center REHAB-HF (NIH study number: [NCT02196038](#)) clinical trial. The overarching goal of that study, which aims to enroll 360 patients, is to determine the benefit of rehabilitation interventions for older patients recovering from a heart failure hospitalization who may find it challenging to complete the types of physical activity that are included in traditional cardiac rehabilitation. In fact, such patients are currently excluded from participating in cardiac rehabilitation by CMS policy because there has been so little prior research in these patients. The early baseline analysis presented in this interim report, is the first to look at the differences in physical performance, frailty, depression and cognition between preserved and reduced ejection fraction patients.

In an [accompanying editorial](#), Kelsey M Flint, MD from Rocky Mountain Regional VA Medical Center and Daniel E Forman, MD, from the University of Pittsburgh Department of Medicine; say that this characterization is significant, because heart failure is a condition that hasn't been fully addressed by current standards of care. "Over 70% of Medicare beneficiaries who are hospitalized for heart failure (HF) die or are re-hospitalized by one year after discharge," the editorial authors write.

Using a number of assessments more common in the field of geriatric medicine than cardiology, the researchers found that both types of patients scored equally poorly on measures of physical ability, such as walking speed, getting up from a

chair unassisted and endurance. They had similar scores on measures of frailty and also cognitive impairment. However, depression and quality of life scores were consistently lower in patients with preserved ejection fractions, or stronger hearts.

"We think of these results as a call to action for the cardiology community," said Dr. Reeves. "These findings indicate we need to do more than decongesting the hearts of these [patients](#)."

More information: Haider J. Warraich, Dalane W. Kitzman, David J. Whellan, Pamela W. Duncan, Robert J. Mentz, Amy M. Pastva, M. Benjamin Nelson, Bharathi Upadhya, and Gordon R. Reeves, "Physical Function, Frailty, Cognition, Depression and Quality-of-Life in Hospitalized Adults ≥60 Years with Acute Decompensated Heart Failure with Preserved versus Reduced Ejection Fraction: Insights from the REHAB-HF Trial," *Circulation: Heart Failure*, DOI: [10.1161/CIRCHEARTFAILURE.118.005254](https://doi.org/10.1161/CIRCHEARTFAILURE.118.005254) , www.ahajournals.org/doi/full/10.1161/CIRCHEARTFAILURE.118.005254

Provided by Thomas Jefferson University

APA citation: In heart failure, a stronger heart could spell worse symptoms (2018, November 20) retrieved 24 May 2021 from <https://medicalxpress.com/news/2018-11-heart-failure-stronger-worse-symptoms.html>

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