

Beta blockers could benefit patients with HFPEF

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Dr. Lars H. Lund is a Principal Investigator at the Swedish medical university Karolinska Institutet. Credit: Stefan Zimmerman

A novel registry study from Karolinska Institutet in Sweden suggests that beta blockers may benefit also patients suffering from a relatively unknown form of heart failure called HFPEF, which today lacks well-established treatment. HFPEF involves an impaired ability of the heart to fill with blood, and affects nearly 2% of the population. These new

findings are being published in the scientific periodical *JAMA*.

Heart failure was for a long time defined as reduced ability to contract the heart and pump oxygenated blood out to the rest of the body. This condition is often caused by long-standing high blood pressure or a previous heart attack. Men are affected more often than women, and there are several treatments improving symptoms and survival.

However, in recent years it has become clear that a new type of [heart failure](#) is equally common and serious. This type of heart failure, called HFPEF or heart failure with preserved ejection fraction, involves a reduced ability in the heart to relax and fill with blood. HFPEF is more common at old age and affects women more often than men. Until recently, there was no treatment against this disorder.

In the current study, a Swedish team comprising researchers from Karolinska Institutet, Linköping University, Stockholm South General Hospital, Danderyd Hospital and Karolinska University Hospital analysed data from 42,000 patients from the nation-wide Swedish Heart Failure Registry. According to the findings, patients with HFPEF who were treated with beta blockers had better survival than untreated patients. The difference persisted after adjustment for a large number of other factors, such as patient age, general health, socioeconomic and other factors, and the final decrease in mortality was 7% in the group treated with beta blockers.

In heart failure, stress hormones such as adrenaline are secreted and damage the heart in the long-term. Beta blockers protects against this damaging effect. In randomized trials in patients with reduced ability to contract the heart, beta blockers have been shown to reduce mortality. However, this is the first comprehensive study regarding the effect of beta blockers in patients with HFPEF.

In a previous study, the Swedish team also reported that HFPEF [patients](#) could benefit from other similar heart drugs, such as ACE-inhibitors and angiotensin receptor blockers. Researchers now plan to proceed with randomized clinical trials.

"This study was large and rigorous, but still cannot prove that [beta blockers](#) are beneficial in HFPEF", says Principal Investigator Lars H. Lund, Associate Professor at Karolinska Institutet. "However, it provides a rationale for performing large-scale randomized trials with this inexpensive category of drugs, which we now plan to go through with. Sweden has unique capabilities to implement such randomized studies in the context of the major Swedish quality registries."

More information: 'Association between Use of Beta-Blockers and Mortality in Patients with Heart Failure and Preserved Ejection Fraction', Lars H. Lund, Lina Benson, Ulf Dahlström, Magnus Edner, Leif Friberg, *JAMA*, online 16th November 2014.
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