

Not faster, but longer -- new drug changes beat in treating heart failure

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A new drug which offers a radically different approach to treating certain types of heart failure has been shown to improve cardiac function in heart failure patients in its first clinical trials.

Current treatments for heart failure are aimed at a wide range of targets, but omecamtiv mercabil is the first of a new class of drugs - called cardiac myosin activators - which target the motor proteins that cause muscle contraction. Cardiac myosin activators prolong the interaction between the motor proteins myosin and actin to prolong the contraction of the left ventricle, the heart chamber which pumps oxygenated blood out to the rest of the body.

Rather than make the heart beat more often, omecamtiv mercabil makes the heart muscles contract for longer, which increases the volume of blood the heart pumps with each stroke.

The Phase II clinical trial - led by the University of Hull and reported in this week's *Lancet* - tested the [drug](#) for safety and effectiveness in 45 [heart failure patients](#) with impaired function of the left ventricle.

Although the drug increased the duration of left ventricular contraction and the amount of blood expelled, it did not increase the heart's energy expenditure, which means the heart was working more effectively and efficiently.

Professor John Cleland, from the University of Hull says: "The trial proves that the drug can be given safely to patients suffering from heart failure and shows that, at the correct doses and blood plasma concentrations, it can improve heart function and make the heart contract more effectively."

The drug had already been successfully tested with healthy volunteers, but the Hull trial was the first to test the drug with [heart failure](#) patients. Currently, the drug has to be given by infusion into a vein but a capsule is being developed that can

be taken by mouth. All patients taking part in the double-blind, placebo, crossover trial were stable, and most were taking accepted treatments for the condition such as ACE inhibitors and β blockers.

"This initial trial was very promising and further larger-scale studies of the drug are already underway," says Professor Cleland. "We need to see whether the improvements in [cardiac function](#) translate into real benefits for patients, in terms of their symptoms and quality of life, and whether it can impact on mortality and morbidity."

Provided by University of Hull

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