

Heart failure: New treatment option makes heart 'softer'

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Heart failure with concomitant pulmonary hypertension is a growing health problem with a high mortality rate, above all in older people. The cardiologist Diana Bonderman from the University Department of Internal Medicine II at the MedUni Vienna, as the author of a multinational phase II study, has demonstrated the effectiveness of a substance that sticks to the so-called nitric oxide pathway and makes the heart "softer". This demonstrably ensures a clearly improved quality of life. Heart failure is regarded as a "new" common disease; according to expert estimates, in Austria there are around 250,000 people suffering from this condition.

Says Bonderman: "The substance, a 'soluble guanylate cyclase stimulator', causes the enlarged and calcified heart to become 'softer' so that it can beat more easily, after a heart attack for example. This means the pressure, which arises in the left half of the heart when the heart beats, is reduced and, consequently, the pulmonary pressure also no longer increases or is reduced. It widens the blood vessels and improves the heart's performance."

201 sufferers were involved in the current study, which has now been published in the leading journal *Circulation*. According to the [cardiologist](#) summarising the result, an overwhelming majority stated that after the treatment their quality of life had clearly improved and [everyday activities](#) such as going shopping or climbing stairs were easier.

Heart failure and its concomitant [pulmonary hypertension](#) lead to a reduction in performance, circulatory disorders and often to shortness of breath when lying down. Without treatment it can lead to severe heart failure. The person affected finds it difficult to walk very far or to take part in normal daily life. Heart failure is the inability of the heart to move the amount of blood required by the body without an increase in pressure in the [atria](#) of the heart and, as a result, in the lungs as well.

MedUni Vienna: high competence in heart failure

The MedUni Vienna is regarded as a centre of competence for heart failure – at international level as well. Amongst the 17 projects funded for clinical research (KLIF), which are receiving nationwide funding over the next three years from the Austrian Science Fund (FWF), there are also two MedUni Vienna projects on heart failure: Bonderman's ("Prognosis parameters in [heart failure](#) with left ventricle function maintained") and one by Julia Mascherbauer from the University Department of Internal Medicine II with the title "Quantification of diffuse myocardial fibrosis with cardiac magnetic resonance

tomography".

Vascular and cardiac medicine – one of the five research clusters at the MedUni Vienna

Vascular and cardiac medicine is one of the five research clusters at the Medical University of Vienna. The MedUni Vienna is increasingly focusing in this, and the other four specialist domains, on fundamental and clinical research. The other four research clusters are cancer research/oncology, allergology/immunology/infectiology, neuroscience and imaging.

More information: Bonderman, D. et al. Riociguat for Patients with Pulmonary Hypertension due to Systolic Left Ventricular Dysfunction: A Phase IIb Double-Blind, Randomized, Placebo-Controlled, Dose-Ranging Hemodynamic Study, *Circulation*, June 17, 2013. [doi: 10.1161/circulationaha.113.001458](https://doi.org/10.1161/circulationaha.113.001458)

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