

Even mild heart failure can lead to sudden death

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Sudden cardiac arrest is a possible cause of death in patients with non-ischaemic cardiac muscle weakness, i.e. a type of heart failure caused by genetics or for which no cause is known. Now, researchers at the University Department of Internal Medicine II at the MedUni Vienna (Clinical Department of Cardiology), as part of an international cooperation, have successfully demonstrated the advantages of an implanted defibrillator (ICD) as a means of prevention in patients with moderately restricted cardiac function, and that patients with the condition must be treated as carefully as patients with ischaemic heart failure which has developed following a heart attack, for example.

People with non-ischaemic heart failure and pathological enlargement of the cardiac muscle usually have normal coronary vessels. The pumping defect does not arise in these patients in the same way as in patients whose ischaemic heart failure is caused by dead or scarred areas of muscle. The problem arises in this case from a

faulty fibrotic conversion and enlargement of the heart.

"This difference is reflected in the [risk assessment of sudden cardiac death](#)", says study author Thomas Pezawas from the Department of Clinical Cardiology. "Patients with non-ischaemic heart cardiac muscle weakness are assessed with a lower risk of sudden cardiac death and therefore are less likely to receive a primary prevention ICD."

The standard test for risk assessment in relation to life-threatening cardiac rhythm disturbances is currently the left ventricular ejection fraction, which represents a measure of the heart's function and measures the volume of the beat in relation to the overall volume of blood in the ventricle. Non-invasive tests (measurement of ECG parameters) are also recommended. The current study has now shown that the tests that are currently commonly used, viewed over a period of ten years, allow only imprecise prognoses and that patients with non-ischaemic [heart failure](#) are at just as much risk and need to be treated accordingly.

"We investigated cardiac muscle weakness patients with non-dangerous cardiac rhythm disturbances. The number of potentially fatal cases is much higher than anticipated. Unfortunately, sudden cardiac death also affects patients with only mild cardiac muscle weakness," says Pezawas, summarising the results that have now been published in the highly respected journal *Circulation AE*.

These new findings should in future be factored into a new risk assessment method for people with non-ischaemic cardiac [muscle weakness](#), say the scientists. With the aim of achieving better protection against sudden cardiac death and reducing uninformative investigation methods. The study authors' recommendation of considering an implantable defibrillator even in patients with mild [cardiac muscle](#) weakness could introduce a

paradigm shift in the approach to treatment.

More information: Pezawas T, Diedrich A, Winker R, Robertson D, Richter B, Wang L, Byrne DW, Schmidinger H. "Multiple Autonomic and Repolarization Investigation of Sudden Cardiac Death in Dilated Cardiomyopathy and Controls." *Circulation* AE, 2014. DOI: [10.1161/CIRCEP.114.001745](https://doi.org/10.1161/CIRCEP.114.001745)

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