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Press release
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The threat of heart failure after a heart attack despite good therapy Graz researchers work on a drug therapy

Graz, 31 August 2022: A heart attack is a very dramatic event in the life of every person who experiences one. In recent years, treatment for an acute heart attack has significantly improved primarily through the rapid restoration of blood flow with medical interventions and the development of new drugs. The increased risk of developing heart failure following a heart attack still remains. Med Uni Graz scientists now have promising research findings on how the pumping capacity of the heart following a heart attack can be best maintained, which results in a considerable advantage in patient quality of life as well as the risk of complications.

Heart attack: increased risk of heart failure despite good therapeutic options

Severe persistent pain under the sternum, a feeling of tightness and pressure in the chest, a pale face, cold sweat on the forehead and shortness of breath: These symptoms suggest above all an acute heart attack, which is a life-threatening event due to dying cardiac muscle cells. Quick action is necessary so that medical interventions such as coronary catheterization and possibly stent implantation can restore blood flow to the coronary arteries as quickly as possible. Even though good treatment for a heart attack is now available, the risk of developing heart failure remains high in the months and years following the attack since the loss of cardiac tissue is irretrievable, and the pumping capacity of the heart cannot recover completely.

Study conducted in Austria shows improvement in the pumping capacity of the heart

This is the point of departure for endocrinologist Harald Sourij and cardiologist Dirk von Lewinski from the Medical University of Graz. As part of a study involving eleven trial centers in Austria, the two scientists have investigated how a drug originally developed to lower blood sugar can help maintain the pumping capacity of the heart following a heart attack. Within 72 hours of a heart attack, 476 patients were treated with either the drug empagliflozin or a placebo for 26 weeks. "With treatment with empagliflozin, we were able to observe both an improvement in the biomarker for heart failure—NT-proBNP—and an increase in the pumping capacity of the heart," reported Dirk von Lewinski from the Med Uni Graz Division of Cardiology, who is head of the cardiology intensive care unit at University Hospital Graz. The promising data were presented at the European Society of Cardiology congress, where they received great international attention, and have now been published in the renowned European Heart Journal.

The vision of drug therapy for heart failure



In the research findings, both scientists see an initial promising approach that employs drug therapy to avoid the long-term development of heart failure following a heart attack. "Further studies on a larger scale are necessary to confirm the research findings," says Harald Sourij from the Division of Endocrinology and Diabetology, who is director of the Med Uni Graz Interdisciplinary Metabolic Medicine Trials Unit and coordinator of this study.

Prognosis for therapeutic success as a further research focus

The research findings now published have already met with great international interest. As a consequence, blood samples from the study participants are to be examined for whether there are biomarkers that can predict the response to therapy as well as the risk for a worsening of cardiac pumping capacity. Research collaborations on this topic with Sorbonne University, the University of Oxford, the Medical University of Warsaw and Khalifa University (Abu Dhabi) have already begun.

More information

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