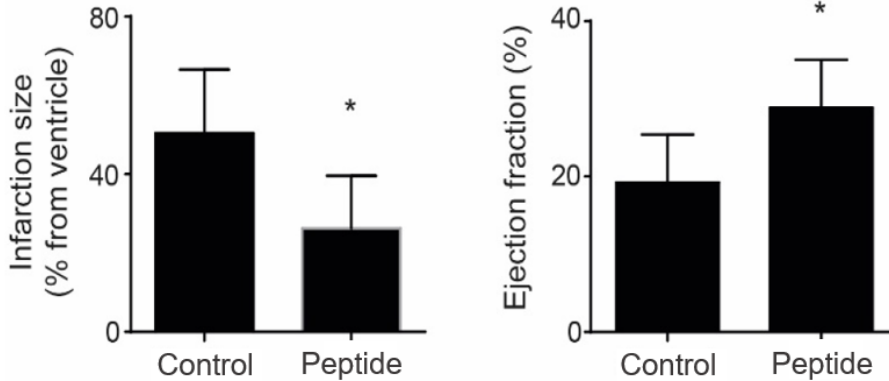


RWTH Technology

Cardioprotective Peptide



Challenge

Heart failure, also known as acute decompensated heart failure or cardiac failure, is not a single disease entity, but rather a syndrome of the worsening of signs and symptoms reflecting an inability of the heart to pump blood at a rate commensurate to the needs of the body at normal filling pressure. Heart failure may be the result of a primary disturbance in the systolic or diastolic function of the heart or of abnormal venous or arterial vasoconstriction, but generally represents an interaction of multiple factors. The management of heart failure is very complex and still insufficient. Even carefully optimized current pharmacologic therapies show often insufficient long-term benefits. Independent of the applied drug(s) many of the patients do not show improvement of the heart function. Consequently, other invasive and device therapies, such as cardiac resynchronization therapy (CRT)/biventricular pacemaker and implantable defibrillator device (ICD), are often performed accompanied by increased associated risks of bleeding and infections.

Solution

A recently identified peptide, that was originally found to modulate vasoregulatory effects as a cofactor, was subjected further experiments as its concentration in plasma of heart failure patients was found to be increased in comparison to healthy controls. These experiments elucidated the cardioprotective effects of this peptide as mice treated with the peptide exhibited significantly decreased infarcted areas and at the same time improved ejection fractions compared to control mice (see figures above). By controlling both blood pressure and preserving the heart function, the peptide acts as a cardiac stimulant and adds an important therapeutic value to the heart failure management. From this point of view, the peptide is a "breakthrough therapy", meant to expedite the development and review of drugs for life-threatening conditions.

Advantages

- Symptoms of patients with heart failure will be significantly improved.
- Reduction of acute heart congestion.
- Increased compliance of the patients.
- Shortening of hospital stays of heart failure patients.

Status

- Patent applications (Germany, PCT) filed
- *In-vivo* studies successful in mice

RWTH Aachen University is looking for partners for patent commercialization

RWTH Innovation GmbH

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Fields of Application

Heart Failure, Myocardial Infarction, Coronary Artery Disease (Ischemic Heart Disease), Myocarditis, Myocardial Hypoxia

Key Words

#Heart Disease, #Cardioprotective Effects

Your Contact Person

Dr. Alan Mertens
Innovation Manager

Campus-Boulevard 57
52074 Aachen
GERMANY

Tel.: +49 241 80-92187
Fax: +49 241 80-692614

alan.mertens@rwth-innovation.de

www.rwth-innovation.de