Needles improve exercise tolerance in heart patients

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Acupuncture can improve exercise tolerance in patients suffering from chronic heart failure. This was determined in a clinical pilot study by the team headed by Dr. Johannes Backs, physician and study director at the Department of Internal Medicine III (Cardiology, Angiology, and Pneumology Medical Director: Professor Dr. Hugo Katus) of Heidelberg University Hospital. The needles do not increase the heart's pump function, but they seem to have an influence on skeletal muscle strength and thus can increase the walk distance that heart patients can cover. The results of the clinical study, which was conducted with a comparison group treated with placebo acupuncture using dull needles, have been published in the prestigious medical journal *Heart*.

Acupuncture influences the autonomic nervous system

Chronic weakness of the heart muscle is one of the most frequent diseases and causes of death in Europe. Patients with this disease suffer in particular from a reduction in work capacity. Shortness of breath and fatigue brought on by physical exercise are signs of the disease.

The disease is much more complex than previously assumed. It is not only the weakening pump function of the heart muscle that is responsible for the symptoms. What is known as the autonomic or vegetative nervous system and various nerve transmitter substances become imbalanced, which further worsens the course of the disease. This is precisely where acupuncture may intervene, by bringing these processes back into balance it influences the autonomic sympathetic nervous system (excitation), boosts the parasympathetic nervous system (relaxation), and also has an anti-inflammatory affect. Thus far there have been hardly any studies of whether acupuncture can thus influence such life-threatening diseases such as heart failure.

Needles fight exhaustion

The scientists examined patients with heart failure who were treated with the conventional medications and were in stable condition. In addition, patients in the acupuncture group were given ten sessions of acupuncture focusing on the acupuncture points which boost general strength according to Traditional Chinese Medicine and are also known to influence the sympathetic and parasympathetic nervous systems and inflammation markers. The control group was treated with special placebo needles that simulate a needle prick but do not break the skin. After this therapy, the acupuncture patients could cover a greater walk distance in the

time allowed than the placebo patients. They recovered more quickly and tended to feel subjectively less exhausted. However, the measurable work capacity of the heart was unchanged.

Inflammation messengers cause muscle fatigue

We already know from other studies that heart patient's ability to tolerate exercise is independent of the pump function of the heart. It appears rather that easily becoming fatigued stems primarily from the muscles. Inflammation messengers in the blood are increased in chronic heart failure and make the muscles tired. They activate what are known as ergoreceptors in the muscle that signalize to the body that the muscle cannot sustain the workload. "The blood level of a certain messenger, tumor necrosis factor alpha (TNF alpha) actually drops after the real acupuncture treatment. Since TNF alpha leads to a reduction of muscle mass and muscle strength among other things, this would explain the positive effect on skeletal muscle function," explains Dr. Arnt Kristen, one of the authors of the study.

Better long-term prognoses through acupuncture?

"Most studies on the effectiveness of acupuncture have methodological weaknesses, as there are no placebo controls and the study participants are not 'blinded'. This means that the patients know which treatment they are given and may therefore have certain expectations," according to Backs. "In our studies, all patients thought they had received 'real' acupuncture." A fascinating question for the future will be whether relatively low-cost acupuncture can improve the prognosis for cardiac patients over the long term.

SOURCE [2]

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