

Spinning sessions trigger the same biochemical indications as heart attacks

February 6 2012

A short spinning session can trigger the same biochemical indications as a heart attack – a reaction that is probably both natural and harmless, but should be borne in mind when people seek emergency treatment for chest pain, reveals a study from the Sahlgrenska Academy at the University of Gothenburg, Sweden.

Heart attacks increase the secretion of enzymes known as cardiac biomarkers, which can be measured using a simple blood test. This is important for rapid diagnosis and initiation of treatment. However, levels of these biomarkers also increase in situations that have nothing to do with heart disease, such as long periods of strenuous physical exertion like marathons, triathlons or long skiing races.

Important for accurate assessment

Researchers at the University of Gothenburg's Sahlgrenska Academy have now investigated whether shorter and less intensive forms of exercise have the same effect on cardiac biomarkers. This information is important for the accurate assessment of patients seeking emergency medical treatment after exercise.

Heart attack levels

The study included ten healthy people, with an average age of 30, who took part in an hour-long spinning session where researchers measured

cardiac biomarkers in the blood immediately before the session as well as one hour after and again 24 hours after. The study showed that levels of a commonly used cardiac biomarker, the heart enzyme troponin T, doubled an hour after the session. In two of the individuals the enzyme rose to levels that are routinely used as the threshold for heart attacks.

Normal in 24 hours

"Levels returned to normal in everyone in the study 24 hours after the spinning session," says Smita Duttaroy, researcher at the Sahlgrenska Academy. "This is an important difference to patients who've had a [heart attack](#), where levels of the markers can remain raised for several days afterwards."

More awareness needed

The exercise-induced increase in cardiac biomarkers in healthy people is probably not dangerous but is, instead, a normal bodily reaction to exercise. However, Duttaroy feels that the similarities with heart attacks mean that emergency treatment teams must be more aware.

"When somebody with chest pains comes for emergency treatment, and a blood test shows that the cardiac biomarkers are rising, it's important to recognise that this kind of increase can also occur in healthy people after a normal exercise session."

Passing the knowledge

Duttaroy and her research colleague Mats Börjesson, who were responsible for the study, now hope to be able to pass this knowledge on to colleagues who work with patients with chest pains.

The study "A single-bout of one-hour spinning exercise increases troponin T in healthy subjects" has been published in the *Scandinavian Cardiovascular Journal*.

Provided by University of Gothenburg

Citation: Spinning sessions trigger the same biochemical indications as heart attacks (2012, February 6) retrieved 10 April 2024 from <https://medicalxpress.com/news/2012-02-sessions-trigger-biochemical-indications-heart.html>

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