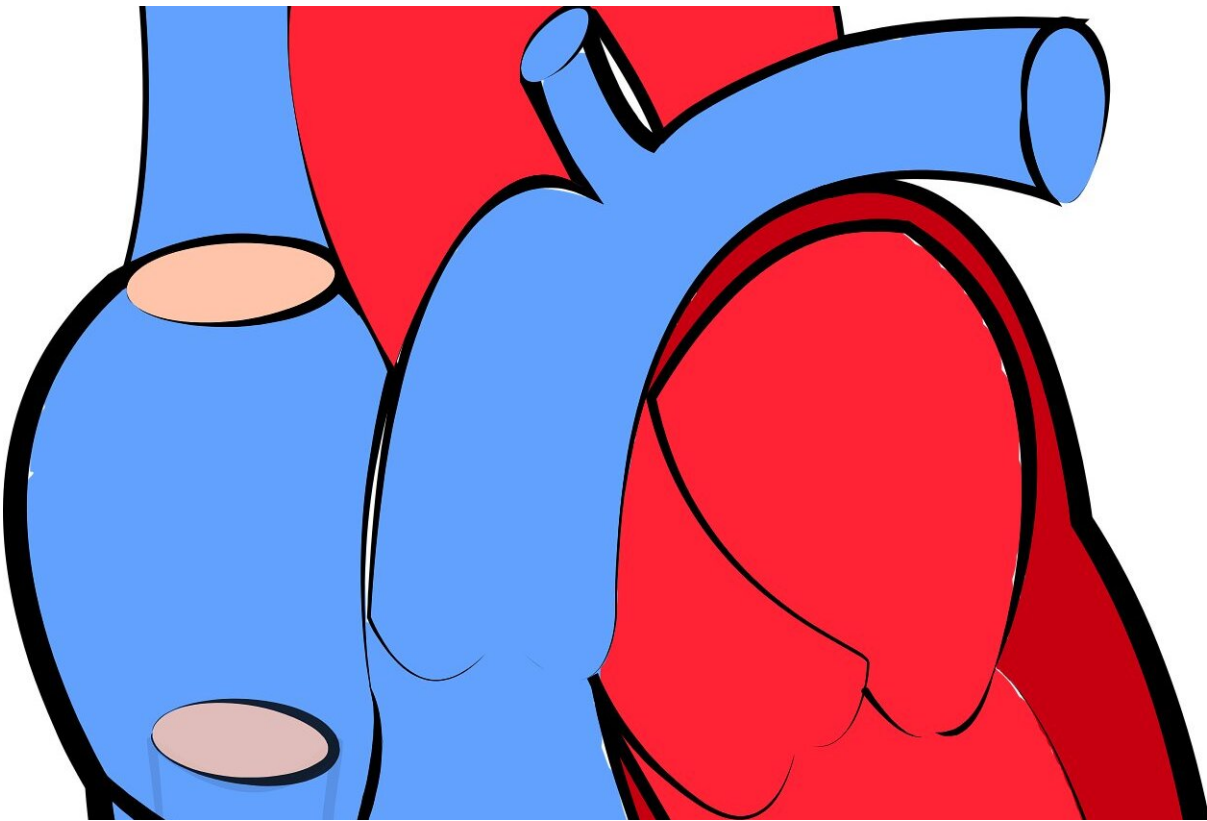


Asthma drug potential treatment for aortic aneurysm

February 6 2018



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Aortic aneurysm – the dilation of the aorta – is a serious condition that lacks effective drug treatment. Researchers at Karolinska Institutet report in the journal *PNAS*, however, that a common asthma drug can

retard the development of aortic aneurysm in mice.

"Our results are exciting and open the way for a medical treatment of this serious vascular disease," says Professor Jesper Z. Haeggström at Karolinska Institutet's Department of Medical Biochemistry and Biophysics.

An [aortic aneurysm](#) occurs when the wall of the body's largest artery, the aorta, weakens and swells. The disease progresses slowly and affects some 5 per cent of men and 1 per cent of women over the age of 60. The condition is largely symptom-free and is normally therefore not discovered until late in its development when it threatens to rupture and cause life-threatening haemorrhaging. There are currently no drugs for preventing and treating aortic aneurysm.

In earlier studies, the research group found high levels of particular inflammatory signal substances called leukotrienes in the vascular walls of patients operated on for aortic aneurysm. Leukotrienes drive inflammation and are known for their potential to cause asthma. Since the asthma [drug](#) montelukast blocks leukotrienes, the team decided to examine whether it could also have an effect on aortic aneurysm.

Very few side-effects

Their studies on mice revealed that the treatment did indeed reduce the swelling of the [aorta](#) and reduced levels of an enzyme that can break down the vascular wall and a protein involved in inflammatory processes.

"This study is particularly interesting from a therapeutic perspective since montelukast is a safe drug with very few side-effects, which means it can be taken over a long period of time," explains Professor Haeggström. "In the study we used [drug doses](#) equivalent to those used in

the treatment of [asthma patients](#)."

The researchers hope to be able to start a controlled clinical trial to test the drug's efficacy on patients with aortic [aneurysm](#).

More information: Cysteinyl leukotriene receptor 1 antagonism prevents experimental abdominal aortic aneurysm, *PNAS*, doi.org/10.1073/pnas.1717906115

Provided by Karolinska Institutet

Citation: Asthma drug potential treatment for aortic aneurysm (2018, February 6) retrieved 2 May 2024 from <https://medicalxpress.com/news/2018-02-asthma-drug-potential-treatment-aortic.html>

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