

Researchers find no benefit for treatment used to avoid surgery for abdominal aortic aneurysm

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A new landmark study by researchers at the University of Maryland School of Medicine (UMSOM) found that patients with a vascular

condition, called abdominal aortic aneurysm, received no benefits from taking a common antibiotic drug to reduce inflammation. Patients who took the antibiotic doxycycline experienced no reduction in the growth of their aneurysm over two years compared to those who took a placebo, according to the study published today in the *Journal of the American Medical Association (JAMA)*.

The finding could lead doctors to stop prescribing the drug as a way to prevent small aneurysms from growing larger and bursting.

"This study provides strong evidence that doxycycline is of no benefit for patients with small abdominal aortic aneurysms in terms of preventing their growth. Health care providers should take note of the finding and stop using this as a prophylactic treatment," said corresponding author Michael Terrin, MDCM, MPH, Professor of Epidemiology and Public Health at UMSOM. Researchers from the University of Nebraska Medical Center, the University of Wisconsin School of Medicine and Public Health and Vanderbilt University School of Medicine also had leadership roles in the study.

Abdominal aortic aneurysm is a swelling or ballooning that occurs in the major blood vessel (aorta) that supplies blood from the heart to the lower half of the body. It affects about 3 percent of older Americans, most commonly men and smokers. The condition can cause fatal internal bleeding if the aneurysm grows large enough to burst. Small aneurysms frequently cause no symptoms and are often detected when an abdominal ultrasound or CT scan is performed for other reasons.

Doctors usually monitor the growth of the aneurysm and sometimes opt to prescribe doxycycline in an effort to forestall surgery in higher-risk patients. This practice was based on earlier research suggesting that certain antibiotics reduce inflammation that contributes to aneurysm growth.

The *JAMA* study involved 254 patients with small aneurysms who were randomly assigned to take either 100 milligrams of doxycycline twice daily or a placebo for two years; CT scans performed at the beginning of the study and on follow-up found no differences in [aneurysm](#) growth between those who took the drug and those who took the placebo. Study participants were mostly white and male with an average age of 71 years.

"Randomized [clinical trials](#) are essential when it comes to answering important clinical questions," said Dean E. Albert Reece, MD, Ph.D., MBA, who is also Executive Vice President for Medical Affairs, UM Baltimore, and the John Z. and Akiko K. Bowers Distinguished Professor, University of Maryland School of Medicine. "This finding will help guide doctors to avoid an unnecessary treatment for a common condition associated with aging."

More information: B. Timothy Baxter et al. Effect of Doxycycline on Aneurysm Growth Among Patients With Small Infrarenal Abdominal Aortic Aneurysms, *JAMA* (2020). [DOI: 10.1001/jama.2020.5230](https://doi.org/10.1001/jama.2020.5230)

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