

# Study examines regional use of minimally invasive repair of aneurysms

April 2 2010

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While health policy researchers commonly suggest that geographic variations in the amount of medical care provided can be attributed to hospital costs or physician practice patterns, a new study examining regional utilization of a specific surgical procedure - minimally invasive aneurysm repair - shows that is not the case.

Researchers at Cedars-Sinai Medical Center in Los Angeles have found that the utilization of endovascular aortic abdominal aneurysm repair was not associated with physician capacity and distribution, socioeconomic factors or other non-medical factors, but rather with a patient's [cardiovascular risk factors](#), disease prevalence and the clinical judgment of physicians.

Details of this study were reported in the April issue of the [Journal of Vascular Surgery](#).

Endovascular aortic abdominal aneurysm repair is a procedure to repair a ballooning of the [aorta](#), and is similar to the stent placement in a coronary artery after angioplasty. While the total number of aneurysms found in the population has remained about the same over the last several decades, the number of aortic aneurysm repairs performed as open surgeries has decreased by 48 percent, while the number of aneurysms repaired endovascularly increased by more than 100 percent since the procedure was introduced in the 1990s.

"Until now, little has been known about what medical and non-medical

factors influence the use of minimally invasive vascular surgical repair," said Bruce Gewertz, MD, chair of the department of surgery at Cedars-Sinai Medical Center and the study's principal investigator. "But because vascular surgeons perform both open and minimally invasive aneurysm repair, the data on decision-making aspects of the patients' medical care could be analyzed in a more straight forward manner."

"In the study, we found that increased use of the endovascular procedure to repair an aortic abdominal aneurysm correlated most closely with higher-risk patient populations and with physicians who were more experienced in treating aneurysms," said Gewertz, who is also surgeon-in-chief and the Harriet and Steven Nichols Endowed Chair in Surgery at Cedars-Sinai Medical Center "Contrary to some conventional thinking, use was not strongly influenced by many of the economic factors previously thought to be predictive."

Researchers examined the use of endovascular aortic abdominal aneurysm repair from 2001 to 2006 across 29 states to test the hypothesis that the utilization of innovative vascular procedures by vascular surgeons more closely reflects disease prevalence and consistent clinical judgment than non-medical considerations. The utilization rates varied widely between states, from 39.3 percent to 69.9 percent; use of the procedure was highest in states with higher incidences of [aneurysms](#) and a greater number of deaths from heart disease.

A previous investigation by the research team showed that variations in the rates of carotid endarterectomy actually reflected regional risk factors for atherosclerosis not physician density of other socioeconomic drivers.

"By documenting disparities and variations in care, this study - and others like them - can help define best practice treatment pathways and may lead to new ways to examine inequalities in preventive diagnostic

and therapeutic inefficiencies at the systems level," said Gewertz.

Provided by Cedars-Sinai Medical Center

Citation: Study examines regional use of minimally invasive repair of aneurysms (2010, April 2)  
retrieved 10 April 2024 from

<https://medicalxpress.com/news/2010-04-regional-minimally-invasive-aneurysms.html>

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