

Study Finds Greater Risk of Brain Aneurysms in People with Aortic Aneurysms

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(PhysOrg.com) -- Yale School of Medicine researchers have found that people suffering from thoracic aortic aneurysm (TAA) may be at significantly greater risk of having an intracranial aneurysm (ICA) at the same time.

Their study appears in the online edition of *The [American Journal of Cardiology](#)* at www.ajconline.org/inpress .

The team, led by John Elefteriades, M.D., chief of [cardiac surgery](#), studied 212 patients who had undergone TAA repair in the period from 1997 to 2009. They found that those with TAA were nine times more likely than those in the general population to have intracranial ([brain](#)) aneurysms at the same time.

Location also played a role in the increased risk; if the aneurysm was in the descending aorta, the risk of having a concurrent ICA was nearly five-fold greater than in patients with TAA in the ascending aorta.

“Descending aneurysms are arteriosclerotic, like aneurysms elsewhere in the body, including those in the abdomen, so it make sense that both [atherosclerosis](#) and aneurysms would be seen in another organ as well,” said Elefteriades. “Aneurysms in the ascending aorta do not result from the fatty buildup of [atherosclerosis](#), but rather result from genetically weak aortic tissue.”

Hypertension also increased the prevalence of both kinds of

aneurysms—thoracic and brain -- at the same time. Nearly 12% of patients with hypertension had both TAA and ICA, as opposed to less than 2% of those with normal blood pressure. Smoking also increased the risk.

Brain hemorrhage after an ICA rupture has been associated with high death rates. Forty percent of patients die within one month, and 30 percent of the survivors have persistent neurologic problems. In contrast, the rate of adverse outcomes after treatment of unruptured ICAs is as low as 1%.

“Our study showed that people with TAA should be screened for possible [brain aneurysm](#),” Elefteriades said. “We know they are at substantially greater risk, and if we catch the [brain aneurysm](#) before it ruptures, we can save lives and prevent devastating loss of [brain](#) function.”

Provided by Yale University

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