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By Bryan Kay

The low rate of events that occur in small abdominal aortic aneurysms (AAAs) supports the continuance of ultrasound surveillance every three years for those that measure between 3–3.9 cm and every year for those 4–4.9cm, researchers found.

Investigators at the Cleveland Clinic, Ohio, carried out a retrospective analysis of 5,945 ultrasounds covering 1,581 patients to arrive at the conclusion.

Explaining how the findings support the Society for Vascular Surgery (SVS) clinical practice guidelines on ultrasound surveillance for small AAAs, research team member Jarrad Rowse, MD, said, “If someone has a 3.5cm aneurysm, yearly surveillance is probably a little bit more stringent than is needed based on the freedom from repair indication and freedom from growth.”

He was presenting data from the study during the annual meeting of the Midwestern Vascular Surgical Society (MVSS) staged virtually Sept. 9–12.

The SVS guidelines currently state that aneurysms in the 3–3.9cm range should be observed at three-year intervals, while those 4–4.9cm should be monitored at one-year intervals, Rowse said. Rowse and colleagues set out to determine whether the guidelines fit with clinical practice and identify patients who may be at elevated risk for aneurysm growth.

Patients (average age 73, 349 of whom were female) with more than two AAAs and a baseline aneurysm size of less than 5cm were included in the Cleveland Clinic series drawn from 2008–2018. Groups were created for comparison using size criteria according to the SVS guidelines.

Overall growth rates were also compared under three classes: precipitant, expected, and no growth. Rowse said the study showed 68% of the patients showed no growth, 21% expected growth, and 10% had precipitant growth, while 34, or 2.2%, met repair indications during follow-up (average follow-up was 27.8 months).

Males were found to be more likely to be identified with a larger aneurysm (4–4.9cm), and more likely to have hypertension and chronic kidney disease.

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Rowse further stated that the larger the aneurysm at baseline, the more likely patients were to demonstrate precipitant growth. They were also more likely to reach repair indications, he said.

“Using Cox univariate hazard ratios to identify freedom from growth at two years, we we found that aneurysms that were less than 4cm were relatively free from precipitant growth as well as essentially any growth, whereas larger aneurysms again demonstrated more growth,” Rowse said.

In terms of freedom from repair, the research team found that at two years, the larger the aneurysm, the more likely the relevant patient was to meet the criteria for repair.

“The reason we looked at two years was based on our follow-up as well as a benchmark to delineate the one and three years from the guidelines,” Rowse explained. Furthermore, the team found that males were more likely to have precipitant growth, a larger aneurysm size, larger growth rate, and maximum growth rate. Concluding, Rowse added: “In our series, female gender had less precipitant growth than previously reported, and metformin again showed that it may abrogate aneurysmal growth. There continues to be this subset of patients that do exhibit more precipitant growth of their small aneurysms; however, we were not able to further classify them, and I think those are the patients that we should focus some of our further studies on to identify which patients need more close surveillance.”

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