

Morphology of bicuspid aortic valve influences outcomes

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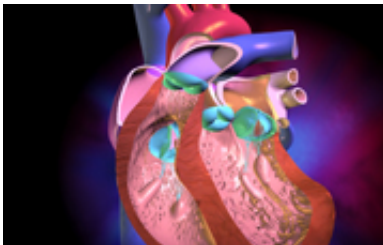


Image courtesy of Blausen Medical

The morphology of bicuspid aortic valve malformations plays an important role in outcomes, according to a study published in the Nov. 1 issue of *The American Journal of Cardiology*.

(HealthDay)—The morphology of bicuspid aortic valve (BAV) malformations plays an important role in outcomes, according to a study published in the Nov. 1 issue of *The American Journal of Cardiology*.

Christiane Pees, M.D., and Ina Michel-Behnke, Ph.D., from the University Children's Hospital in Vienna, prospectively examined 48 [pediatric patients](#) with an isolated, native BAV and 48 matching subjects with tricuspid aortic valves for the morphology and size of the aortic valve, aortic root, sinotubular junction, and [ascending aorta](#) and their elasticity indexes.

The researchers found normal-size aortic dimensions in the tricuspid

aortic valves, but in the BAVs, the ascending aorta and [aortic valve](#) itself dilated with age and aortic elasticity deteriorated. The stiffness was significantly greater in the BAVs (4.43 ± 1.82 versus 3.43 ± 0.81 in the tricuspid aortic valves). There was a significant inverse decrease in the distensibility indexes in the BAVs (6.57 ± 2.83 versus $7.84 \pm 2.04 \text{ cm}^2 \times \text{dynes}^{-1} \times 10^{-6}$ and 53.5 ± 26.0 versus $64.3 \pm 17.9 \text{ kPa}^{-1} \times 10^{-3}$). Even after correction for congenital valve dysfunction, the anteroposterior-oriented phenotype of BAVs showed significantly stiffer and less distensible elasticity, which was more frequent in the left-right-oriented phenotype.

"In conclusion, the morphology of the BAV seems to play a major role in the outcome of BAV disease, although the left-right phenotype is more prone to congenital valve dysfunction, the anteroposterior phenotype showed worse elasticity quality," the authors write.

More information: [Abstract](#)

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