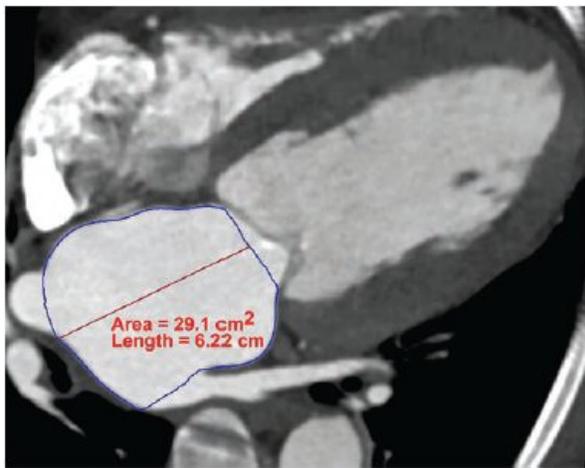
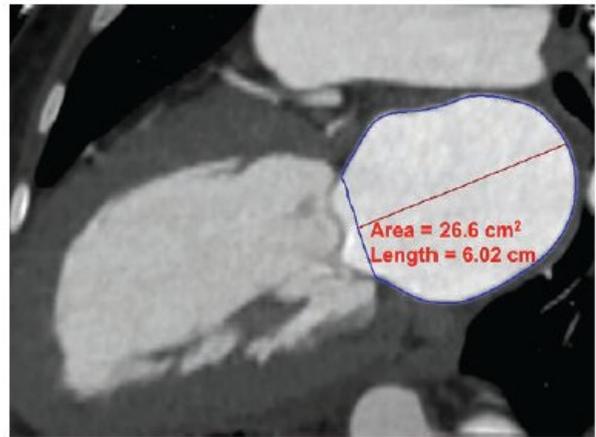


# Cardiac CTA parameters predict post-transcatheter aortic valve replacement mortality

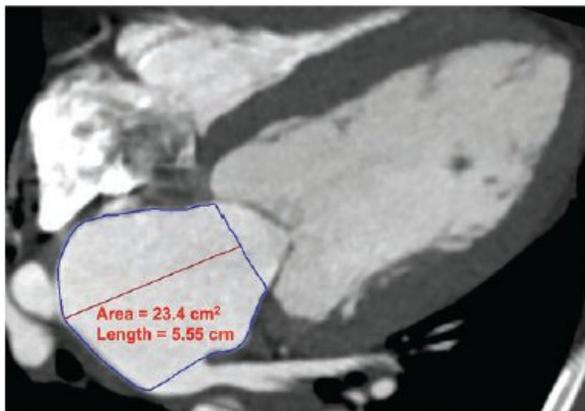
October 13 2021



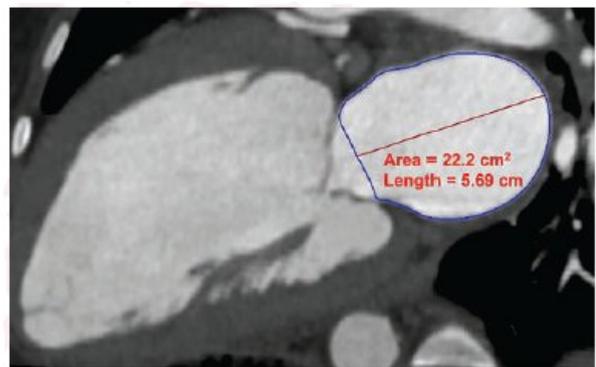
A



B



C



D

LAEF was calculated as  $(LAV_{max}-LAV_{min})/LAV_{max} \times 100$ . Given  $LAV_{max}$  of 109 mL and  $LAV_{min}$  of 80 mL, LAEF was calculated to be 27%. Credit: American Roentgen Ray Society (ARRS), *American Journal of Roentgenology*

(AJR)

According to a new article in the *American Journal of Roentgenology* (AJR), cardiac CTA-derived left atrium emptying fraction (LAEF) improves predictive performance of established clinical risk scores and may be used to assess patients' risk during pre-transcatheter aortic valve replacement (TAVR) workup and postprocedural surveillance.

"LAEF derived from preprocedural cardiac CTA independently predicts mortality in patients with [severe aortic stenosis](#) undergoing TAVR," concluded corresponding author U. Joseph Schoepf from the Medical University of South Carolina's Heart and Vascular Center.

Schoepf and colleagues' retrospective single-center study included 175 patients with severe aortic stenosis (92 male, 83 female; median age, 79 years) who underwent cardiac CTA for clinical pre-TAVR assessment. Maximum and minimum left atrium volumes were calculated using biplane area-length measurements, and the values were indexed to body [surface area](#):  $LAVI_{max}$  and  $LAVI_{min}$ , respectively.

In their sample, a reduced LAEF independently predicted all-cause mortality within 24 months post-procedure (hazard ratio 0.97 [0.94–0.99];  $p=.02$ ). Moreover, when incorporating LAEF, the c-index of the Society of Thoracic Surgeons Predicted Risk of Mortality significantly increased from 0.64 to 0.70.

Acknowledging that atrial parameters are more commonly assessed using transthoracic echocardiography, both atrial volume and atrial function can be reliably assessed using cardiac CTA, "which now represents the gold standard for preprocedural planning in patients undergoing TAVR," the authors of this AJR article added.

**More information:** Gilberto J. Aquino et al, Utility of Functional and Volumetric Left Atrial Parameters Derived From Preprocedural Cardiac CTA in Predicting Mortality After Transcatheter Aortic Valve Replacement, *American Journal of Roentgenology* (2021). [DOI: 10.2214/AJR.21.26775](https://doi.org/10.2214/AJR.21.26775)

Provided by American Roentgen Ray Society

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