

the aortic annulus and the presence of dense calcium limit the applicability of two-dimensional imaging in estimating the annulus diameter for valve sizing. This has led to a great debate over the choice for measuring optimal diameter. However, this novel software determines the dimensions of the aortic annulus, including maximum and minimum diameter, perimeter, and cross-sectional area.

Prospective studies are necessary to show the feasibility and the impact on transcatheter aortic valve implantation procedures.

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Specific Modeling and Quantification of the Aortic Valve. Response



Modelo de cuantificación específico de la válvula aórtica. Respuesta

To the Editor,

We appreciate the comments on our publication.¹ Although the purpose of our article was simply to introduce this new imaging software, we agree with these authors that the software provides additional information to that provided by aortic annulus assessment.

As this author highlight, this information helps to improve our knowledge of cardiac structures and may contribute to more accurate preoperative assessment of patients undergoing transcatheter aortic valve replacement and to avoiding potential complications. With this objective, other novel automated multi-detector computed tomography imaging software was applied in candidates for transcatheter aortic valve replacement; this novel software permitted reliable, reproducible and automated assessment of the aortic root dimensions and spatial relations with the surrounding structures.² In addition to the static measurements, aortic annulus tracking throughout the cardiac cycle can be analyzed with the software in order to assess its function and changes in distinct pathological conditions.

Furthermore, this software can also be applied to the mitral valve and the aortic-mitral junction. With respect to the mitral valve, the annulus area and diameters, the intercommissural distance, and the length and height of the leaflets can be analyzed by this program and, as with the aortic valve, the mitral annulus can also be tracked throughout the cardiac cycle. Concerning mitro-aortic valvular physiology, the anatomic relationship between the 2 valves leads to synchronous and reciprocal behavior. In the last year, Tsang et al³ studied aortic-mitral coupling in patients with severe aortic stenosis undergoing

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transcatheter aortic valve replacement. Their findings showed the importance of considering the mitral-aortic complex as a single structure at the time of clinical assessment.⁴

More studies are needed to determine the impact of all this information in daily clinical practice, but there is no doubt that this software opens a new horizon for imaging-based knowledge of cardiac anatomy and physiology.

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