



Letter to the Editor

Three-dimensional echocardiography for Tricuspid Annulus - Transthoracic or transoesophageal approach?



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I am reading the paper of Meng et al. in which comparison of tricuspid annular (TA) measurements by two-dimensional (2D) transthoracic (TTE) and transoesophageal echocardiography (TEE), three-dimensional (3D) TEE and computed tomography (CT) was made [1]. Among other findings, direct 2D-TTE assessment appeared to be less reliable for TA dimensions, while the best agreement was verified between direct 3D-TEE and indirect CT imaging for TA measurements in this study. Although the manuscript is well written and the discussion is clear, it needs some revision. The method missing from this analysis was 3D-TTE including both real-time volumetric (RT3DE) and speckle-tracking-based (3DSTE) approaches [2–5]. Both transthoracic RT3DE-TTE and 3DSTE-TTE were found to be capable of accurately measuring TA size and related functional properties [2–5]. By these methods, 2D-projected parameters of the TA could be measured, not its real 3D shape. Anwar et al. demonstrated more than 15 years ago that RT3DE-TTE could be relied on more accurately than 2D-TTE in the assessment of TA size and function and that it helped in its accurate assessment, the results were comparable to those of magnetic resonance imaging [2,3]. Moreover, normal reference values for 3DSTE-TTE-derived TA dimensions are also available [5]. Although image quality could be better and available softwares could allow more accurate and detailed analysis by 3D-TEE than 3D-TTE, performance of 3D-TTE is not only easier and faster, but could be considered a much more patient-friendly method due to the fact that the patient does not have to swallow the transducer. These facts as well as the costs and benefits should be considered in further studies evaluating TA sizing and function.

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