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PROSTHESIS-PATIENT MISMATCH

DEFINITION(S): LET'S AGREE TO AGREE

Reply to the Editor:

In their letter to the editor, Dr Durko and colleagues¹ advocated using the Valve Academic Research Consortium-2² adjusted criteria defining prosthesis-patient mismatch (PPM) in obese patients in the PERIGON trial of a novel aortic bioprosthesis.³ Their letter described a high rate of PPM in PERIGON (62.6% at discharge and 75.5% at 1 year), and they speculated that this may be due to a greater proportion of obese patients being included in the trial. Two meta-analyses have reported PPM rates of 44%^{4,5} for aortic prostheses; however, these studies included mechanical and tissue valves. One of these studies⁵ found the bioprosthetic valves had an odds ratio of 2.94 for PPM, so the rate of PPM found in PERIGON may be in keeping with expectations. Because outcomes in obese patients tend to be less affected by PPM,⁵ this has led some to suggest adjusting the definition of PPM in such patients.² The Valve Academic Research Consortium-2 guidelines advocating this adjustment were specifically intended for transcatheter valve implantation, but it would make sense for a standard definition to be applied to all types of aortic valves.

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ECHOCARDIOGRAPHY UNDERESTIMATES THE AORTIC ROOT DIAMETER IN PATIENTS WITH BICUSPID AORTIC VALVE, BUT

SHORT-AXIS IMAGING CAN HELP

To the Editor:

We have read with great interest the article by Plonek and colleagues,¹ which concludes that aortic root diameters can be underestimated by single-plane long-axis echocardiographic measurements when compared with double-oblique computed tomography (CT) angiography maximum measurements, particularly in patients with bicuspid aortic valves (BAVs). We certainly agree with this important concept.² The authors further explain that underestimation of aortic diameters has been analyzed only for abdominal aortic aneurysms, but no study has analyzed the aortic root; therefore, theirs is the first to do so. This is an inadvertent incorrect statement as we have previously reported comprehensive differences comparing 2-dimensional transthoracic echocardiography (TTE) long-axis root measurements (diastolic leading edge to leading edge) with double-oblique CT-angiography maximum root diameters (diastolic inner wall to inner wall) in patients with BAV.² Indeed, we found systematic TTE underestimation of the root by 3.1 ± 2.6 mm by long-axis TTE compared with CT angiography. Therefore, we tested a new mid-diastolic short-axis 2-dimensional transthoracic root measurement method (leading edge to leading edge) (Figure 1) and found unbiased Bland-Altman agreement between that method and CT angiography (diastolic inner wall to inner wall) for root measurement in patients with BAV.² In addition, the underestimation of the BAV root by single-plane TTE and the importance of using inner wall to inner wall measurements with CT angiography