Committee to Revise the 1998 Guidelines for the Management of Patients With Valvular Heart Disease) endorsed by the Society of Cardiovascular Anesthesiologists, Society for Cardiovascular Angiography and Interventions, and Society of Thoracic Surgeons. *J Am Coll Cardiol*. 2008;52:e1-142.

4. Evangelista A, Flachskampf FA, Erbel R, Antonini-Canterin F, Vlachopoulos C, Rocchi G, et al. Echocardiography in aortic diseases: EAE recommendations for clinical practice. *Eur J Echocardiogr*. 2010;11:645-58.

<http://dx.doi.org/10.1016/j.jtcvs.2013.01.025>

Reply to the Editor:

We thank Grewal and colleagues for their interest in our article, "Cardiac magnetic resonance imaging is more diagnostic than 2-dimensional echocardiography in determining the presence of bicuspid aortic valve."¹ In our study, we found that transthoracic echocardiography (TTE) correctly discriminated 62% of patients with bicuspid aortic valve, compared with 93% with cardiac magnetic resonance imaging (CMRI).¹ Excluding nondiagnostic test results, the sensitivities for bicuspid aortic valve were 86% for TTE and 96% for CMRI.¹ Our study population included patients with aortic stenosis, regurgitation, and normally functioning valves.

We congratulate Grewal and colleagues for analyzing their own experience with preoperative imaging for bicuspid aortic valves. Their experience showed very similar results to ours, with identification rates of 78% with TTE and 94% with CMRI. Sensitivities were also similar to our results, with 60% for TTE and 80% for CMRI. Grewal and colleagues' results do differ slightly from ours because their patient population focused on aortic stenosis only, which we found to reduce the accuracy of both preoperative tests.¹

Clearly, the implications for correct preoperative identification of bicuspid aortic valve are significant. From a practical standpoint, we perform

CMRI in all patients that are found by TTE to have a bicuspid aortic valve to evaluate the ascending aorta completely into the transverse aortic arch for the presence of aneurysm related to associated ascending aortopathy. We also perform CMRI in all patients who have TTE results nondiagnostic for aortic valve morphology. In this group of patients, CMRI can reliably identify valve morphology. We perform CMRI selectively in patients who are found on TTE to have a normal trileaflet valve. Recognizing that the TTE incorrectly identifies a trileaflet valve in 10% of patients who indeed have a bicuspid aortic valve, we perform CMRI in younger patients with aortic valve dysfunction (valve dysfunction typically occurs in younger patients with bicuspid aortic valve) and in patients with borderline ascending aortic aneurysm (aneurysms related to bicuspid aortic valve carry increased risks of dissection and rupture).

We agree with Grewal and colleagues that CMRI improves diagnostic certainty, improves risk stratification, and assists in surgical decision making in patients with bicuspid aortic valve.

S. Chris Malaisrie, MD^a

Issam Mikati, MD^b

Vera Rigolin, MD^b

Patrick M. McCarthy, MD^a

^aDivision of Cardiac Surgery

^bDivision of Cardiology

Northwestern University

Feinberg School of Medicine

Bluhm Cardiovascular Institute at

Northwestern Memorial Hospital

Chicago, Ill

Reference

1. Malaisrie SC, Carr J, Mikati I, Rigolin V, Yip BK, Lapin B, et al. Cardiac magnetic resonance imaging is more diagnostic than 2-dimensional echocardiography in determining the presence of bicuspid aortic valve. *J Thorac Cardiovasc Surg*. 2012;144:370-6.

<http://dx.doi.org/10.1016/j.jtcvs.2013.02.032>

VALUE OF THE TRICUSPID ANNULAR PLANE SYSTOLIC EXCURSION AS A FOLLOW-UP PARAMETER IN PATIENTS WITH HYPOPLASTIC LEFT HEART SYNDROME

To the Editor:

We read with great interest the recent article from Kasnar-Samprec and colleagues,¹ "Unloading of Right Ventricle by Bidirectional Superior Cavopulmonary Anastomosis in Hypoplastic Left Heart Syndrome Patients Promotes Remodeling of Systemic Right Ventricle But Does Not Improve Tricuspid Regurgitation." In our opinion, this is an interesting article describing effects of volume changes on remodeling of the systemic right ventricle (RV) in patients with hypoplastic left heart syndrome (HLHS). Kasnar-Samprec and colleagues¹ found reduced tricuspid annular plane systolic excursion (TAPSE) relative to age-related reference values in all their study groups. Kasnar-Samprec and colleagues¹ also stated that "most had normal RV function," although how else they assessed RV function was not clearly stated. We would interpret the depressed TAPSE as a sign of impaired RV systolic performance both before and after bidirectional superior cavopulmonary anastomosis. We may add that Klitsie and associates² recently published a study suggesting that longitudinal systolic RV function is expected to be decreased after congenital heart defect surgery. We completely agree with the findings of Kasnar-Samprec and colleagues¹ that bidirectional superior cavopulmonary anastomosis promotes the remodeling of the systemic right ventricle, and we would add that in pediatric patients with different physiology (tetralogy of Fallot that has been addressed surgically), the TAPSE values worsen continuously with time.^{3,4} Kasnar-Samprec and colleagues¹ state that in patients with nonsignificant tricuspid