To the Editor:

We thank Dr Yurekli and colleagues [1] for sharing their concerns about our study [2]. It is true that the groups of patients with bicuspid aortic valves (BAVs) and tricuspid aortic valves (TAVs) differed significantly, in particular with regard to aortic diameter and valve dysfunction in our clinical “all-comers” study, “Granular Media Calcification in the Aortic Walls of Patients With Bicuspid and Tricuspid Aortic Valves,” of 87 consecutive surgical patients [2]. However, when subdividing the patients according to aortic diameter into three groups (<50 mm, 50 to 55 mm, >55 mm), a significantly higher level of granular media calcinosis in BAVs is still present (see Fig 5 in our paper [2]). We believe that the pathologic mechanisms of aortic aneurysm development and ultimately aortic wall alterations between BAV and TAV are different; however, the international guidelines still favor diameter-based decision making rather than individual, patient-centered risk stratification [3]. The mean difference among our groups was 5 mm, similarly reflected by current guidelines [3]. Like Dr Yurekli and colleagues [1], we were also concerned about different blood flow architectures within the tubular ascending aorta; however, when comparing convexity and concavity, the difference between BAV and TAV still remains, in the absence of a significant difference within each group (see Fig 2 in our paper [2]). In 2014, Kari and associates [4] demonstrated that the flow compression index was not significantly different in patients with aortic stenosis or regurgitation. The incidence of valve stenosis and regurgitation are significantly different between the groups, thus reflecting clinical everyday practice. However, to the best of our knowledge there is no known association between BAV stenosis and distant intraaortic wall (micro)calcification. Additionally, BAV stenosis most likely results from the valvular abnormality itself, not as a consequence of a systemic procalcific state. A follow-up study investigating the correlation between aortic wall and valve calcification will be published soon. Patients with BAVs constitute a distinct patient cohort with a possibly heterogeneous individual risk profile requiring sophisticated risk stratification, rather than artificial egalitarianism.

Reply

To the Editor:

Phenoxybenzamine Is Unlikely to Be the Intraoperative Antihypertensive of Choice in Pheochromocytoma

To the Editor:

The report in The Annals of Thoracic Surgery by Runyan and colleagues [1] outlining an acute type A aortic dissection precipitated by uncontrolled hypertension in a patient with a previously undiagnosed pheochromocytoma highlights a rare complication that can occur as a consequence of this neuroendocrine tumor. In their discussion, Runyan and colleagues partly address perioperative management issues by stating that the intraoperative antihypertensive “drug of choice” is phenoxybenzamine. This is a curious and rather unlikely choice for several reasons. First, in their own report, Runyan and colleagues used esmolol and nitroglycerin to manage the blood pressure intraoperatively. This is not surprising because, second, phenoxybenzamine is not widely available in an intravenous form in most hospitals; in many parts of the world (eg, Canada, South Africa), it is no longer available in any form (intravenous or oral) [2]. Third, and thankfully, there are many alternate α-blockade and other direct-acting vasodilator strategies available. Indeed, I would
argue that phenoxybenzamine is far from the drug of choice and would instead suggest any number of other more easily available and titratable antihypertensive agents, including but not limited to magnesium, nicardipine, nitroprusside, or labetalol, either alone or in combination with other β-blocking agents such as esmolol [3, 4].

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Low- and Middle-Income Countries and US Trainees Benefit From the Global Health Educator

To the Editor:

In his essay outlining his global surgical career, Dr Sinclair [1] highlights the need to transition from a cardiac surgeon back to “general surgery mode.” Although the burden of general surgical and obstetric emergencies cannot be overlooked by the global surgeon, noncommunicable diseases secondary to advancing age, Westernization of diet, and urbanization will be the leading causes of death in low- and middle-income countries (LMICs) by the year 2030 [2]. Developing and understanding LMIC-appropriate therapies for chronic health complaints must be priorities for education of practitioners in LMICs and trainees pursuing a career in global surgery.

I (ANM) met Dr Sinclair on the wards of the University Teaching Hospital Butare in 2015. As he led Rwandan medical students and residents on rounds, the patients presented with a challenging array of complaints that a seasoned cardiothoracic (CT) surgeon must have seen hundreds of times—mitral valve commissurotomy for chronic rheumatic fever, pleurodesis for tuberculosis-related effusion, an Eloesser flap for chronic lung infection. Barriers to building a thoracic surgery program in a country that has never trained a thoracic surgeon might seem insurmountable; however, at least for rheumatic heart disease, the Rwanda Ministry of Health has leveraged partnerships with Team Heart, a nongovernmental organization from Boston, Massachusetts, whose members have completed multiple heart operations for rural Rwandans and have demonstrated successful outcomes through the use of nursing-led specialty clinics that maintain close continuity and follow-up care [3]. Although programs in CT surgery are slow to develop in LMICs, there are current practical applications for skills readily accessible to a CT surgeon—from procedures for chronic lung infections to operations for esophageal cancer, which has increasing rates in parts of Africa. I recall vividly the gaping hole in the right side of the patient’s chest wall where a section of rib cage should have been. Dr Sinclair’s use of the Eloesser flap is the type of retro, yet innovative thinking that can improve lives in resource-limited settings without the import of cost- or personnel-prohibitively expensive technologies and procedures. Simple and cost-effective strategies that target preventive health and medical management for diseases such as peripheral artery disease, which also has a rising incidence in LMICs, will further reduce the burden of noncommunicable diseases and decrease the need for expensive tertiary interventions, including surgical care [4].

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