Letters to the Editor

The Editor welcomes submissions for possible publication in the Letters to the Editor section that consist of commentary on an article published in the Journal or other relevant issues. Authors should:

- Include no more than 500 words of text, three authors, and five references
- Type with double-spacing
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Prosthetic cardiac valve replacement *To the Editor:*

The US Food and Drug Administration (FDA) has become aware of a problem associated with cardiac valve prosthetic replacement arising from mismatch between annulus sizing devices and the labeled dimension of prostheses. Anecdotal reports suggest that discrepancies between the labeled size of prostheses and the dimensions of the specific sizer may have compromised seating of selected valve prostheses.¹ Christakis and colleagues² documented discrepancies of as much as 8 mm between the labeled size of a particular prosthesis and the external diameter of the sewing cuff. Considerable variation was also found between the diameters of sewing cuffs for valves labeled as similar in size by different manufacturers. Although these discrepancies may not in themselves be relevant to the implantation procedure when the appropriately matched device-specific sizer is used, the use of generic or so-called universal sizers or of sizers designed for other prostheses, even if from the same manufacturer, may result in selection of an oversized valve. At best such an occurrence will require discarding a device before suture attachment because of body fluid contamination. A more serious consequence occurs when the mismatch is not recognized until the attempt to seat the prosthesis after suture placement.

To assess the pervasiveness of this problem with valve sizers, the Society of Thoracic Surgeons, in cooperation with the FDA, surveyed a cohort of 200 cardiac surgeons. One hundred six responders to a mailed questionnaire identified problems with manufacturer-supplied sizers in 31 instances and with universal sizers in 7 cases. The responders also indicated knowledge of similar problems experienced by other surgeons in 52 instances.

The intention of this communication is to alert surgeons to the FDA's concerns regarding the problem of valve and sizer mismatch. The frequency of occurrence suggests a need for remedial prosthetic labeling that accurately and uniformly across

devices describes both sewing cuff external dimensions and orifice area. Tight manufacturing controls should ensure that the prosthetic sewing cuff dimension matches the labeled size within specified tolerances that provide confidence that they are accurately reflected by the sizers used to measure the cardiac valve annulus.

Because of the FDA's concerns, surgeons are cautioned to use only sizers labeled for use with the specific prosthetic valve to be implanted. In addition, it is advised that selection of a satisfactory device fit be confirmed by testing the prosthesis within the annulus before insertion of sewing cuff sutures.

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Resection of pulmonary arteriovenous fistula

To the Editor:

The article on pulmonary arteriovenous fistula by Schröder and colleagues¹ was of interest to me, as was the follow-up Letter to the Editor by Fell.²

I have treated a number of patients with pulmonary arteriovenous fistulas through the years, including in particular a family congenitally affected for 4 generations. Initially, in the early 1970s, I performed primary resection of the fistulous lesions without removal of additional lung tissue.

Before stapling devices, arteriovenous fistulas would be sutured and resected. When staplers became available, I was able to isolate and resect the arteriovenous fistulas with good results. Arteriovenous fistulas the size of an apple or larger (7-8 cm) may be excised without the removal of normally functioning pulmonary tissue with this technique.

The lesions, which may be multiple and bilateral, are relatively easy to delineate and dissect in preparation for removal. I have not used anticoagulation and have not had any difficulty with embolism. Most such patient concerns have been suspected as a result of routine chest radiography and follow-up with computed tomography. The results of magnetic resonance imaging, as compared with contrast angiography, will be interesting in the future. Currently I first consider embolization, especially when the lesions are small, multiple, and bilateral. If the lesion is large or the catheter technique is not desired, I proceed to resection. I understand that in most cases embolic therapy is preferred at this time; however, there is still a place for primary resection of the large or coincidentally found lesion. Such a resection may be performed with a pulmonary-sparing technique.

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Aortic valve regurgitation associated with a fibrous band between the leaflet and the aortic wall

To the Editor:

We read with great interest the article of Nakajima and associates¹ in the October 2002 issue of the Journal, "Aortic Regurgitation Caused by Rupture of a Well-Balanced Fibrous Strand Suspending a Degenerative Tricuspid Aortic Valve." They showed a unique case with aortic valve regurgitation. The well-balanced aortic valvular apparatus shown in their case report has not been reported previously. They inferred the rupture of one the six fibrous strands between the three aortic leaflets and the ascending aorta as a cause of aortic valve incompetence, because the other two leaflets suspended by intact strands were expected to function well.

We have seen two cases of strands in bicuspid aortic valves. The patients were 25- and 45-year-old men. Preoperative echocardiographic study of both patients showed the

presence of strands, and the related leaflet was prolapsed toward the left ventricle in the second case. Unfortunately, we could not get a definite preoperative diagnosis of the presence of the strand in our first case, although we recognized it retrospectively. However, we were able to point out the presence in the second case before operating (Figure 1), and operative findings endorsed the preoperative study. The strands were not ruptured in both cases. The proximal ends of the strands were situated on the conjoined portion of the fused leaflets, and the distal ends were around the sinotubular junction of the ascending aorta. The left and right leaflets were fused in both cases. The patients underwent aortic valve replacement. The resected leaflets showed a mucinous degeneration without inflammation. Our operative and pathologic findings were similar to those in previous reports of such strands.

Embryologically, the aortic valve is formed through truncus ridge elaboration in the truncus arteriosus. We therefore hypothesize that these strands may be embryogenic remnants during the semilunar cusp formation process of the aortic valve.² Nakajima and associates¹ mentioned that rupture of a well-balanced fibrous strand suspending a degenerative tricuspid aortic valve was the cause of aortic regurgitation. They confirmed that the well-balanced fibrous strands existed between the intact leaflets and the ascending, suspending two leaflets with a good coaptation. They lik-

Figure 1. Preoperative echocardiography. A, Long-axis view of left ventricular outflow shows strand between leaflet and ascending aorta (arrows). B, Short-axis view of ascending aorta also shows strand as small high-echoic shadow in ascending aorta (wedges).