of concern. We hope to see the mature follow-up results of CALGB 9335.

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Reply to the Editor:

Dr Sawabata and colleagues address some interesting and yet undefined issues related to resection of small lung cancer lesions. Just what is the safe limit of a resection margin for a lung cancer, and how does the technique of wedge resection affect the extent of this margin and the ability to do facile, prompt, and accurate pathologic assessment? None of the answers to these questions are yet known, and only carefully conducted studies of cohorts of resected patients with T1 size lesions will be able to answer them. We certainly will be looking

at long-term follow-up on our CALGB 9335 patients to attempt to answer this.

In this study the readers are reminded that study subjects were at high cardiopulmonary risk and were compromised and that both survival and locoregional recurrence of this high-risk population might not reflect on similar patients with T1 lesions with near-normal cardiopulmonary status undergoing resection. It is possible, for example, to assume that healthier patients might encourage surgeons to perform wider resection margins, whereas sicker patients with bad lungs will lead surgeons to more conservative narrower resections.

Staple lines at resection margins certainly pose a challenge to pathologists when performing frozen sections, but overall, this is certainly less of a hassle for the surgeon who will have to deal with air leaks if staple resection is not performed. Furthermore, we do not know how tumor size will affect outcome and whether resection margins for subcentimeter lesions will necessarily lend themselves to potentially narrower resection than larger tumors. Perhaps the biology of the lung cancer, rather than its size, will have more effect on the safety of resection margins.

Finally, newer technologies are making their way into our practice and not just brachytherapy, which potentially offers less lung injury, and more concentrated therapy. Image-gated radiotherapy and radiofrequency ablation might also be entertained as potential alternative approaches either alone or as adjuncts to limited surgical resection if studies validate their efficacy.

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Whatever the approach, cutting strut chordae would not smell as sweet To the Editor:

With the first clinical application of Messas and colleagues' ovine trial,¹ Fayad and colleagues² reported the case of a patient with chronic ischemic mitral regurgitation (CIMR) who was managed successfully with strut chordae severing through an exclusive aortotomy and concomitant coronary artery bypass grafting. Although encouraging midterm results were reported, the objection can be raised

Figure 1. Secondary chordae seen through aortotomy. The functional division line of anterior leaflet according to papillary muscle complexes (PMCs) (dotted arrow). Each half is supported by a strut chorda. Strut chordae belonging to APM and PPM. APM, Anterior papillary muscle; PPM, posterior papillary muscle.

to the authors' rationale of a "cut-and-go" approach in the face of such a complex pathophysiologic entity. As indicated by the authors, the factors involved in the genesis of CIMR are multiple and intricate, reflecting the complexity in preoperative analysis of CIMR mechanisms attempted at surgical planning. Similarly, it is our belief that factors involved in the postoperative regression of moderate CIMR are too complex to be ascribed to a given procedure, especially when taking into account reverse ventricular remodeling after coronary artery bypass grafting and possible improvement in intramyocardial conduction, 2 factors that are not taken into account in experimental models of CIMR.

The direct access offered by exclusive aortotomy to approach strut chordae is appealing, but that is at the loss of perioperative analysis of mitral apparatus, still of paramount importance in surgical decision-making. In our experience, the superior left atrial approach offers an adequate surgical field, even in the setting of CIMR or rheumatic disease, and for preprocedural and postprocedural functional analyses of mitral apparatus. Other advantages of a superior left atrial approach include a lesser distortion of mitral annulus and likelihood of perioperative or postoperative bleeding compared with an interatrial approach or aortotomy, respectively.

The authors' technique is conceived according to the conclusions of an experi-

mental study reported by Messas and colleagues.¹ Yet from a pathophysiologic perspective, the conclusions provided by this study remain open to criticism. Moreover, this study is based on Kunzelman and Cochran's³ in vitro study of mechanical characteristics between primary and secondary chordae, which found a greater amount of stress borne by primary chordae than by secondary chordae. Thus, Kunzelman and Cochran's statements were challenged by the in vivo investigation of Lomholt and colleagues,⁴ which demonstrated that secondary chordae are more important mediators of the valvular-ventricular interaction than primary chordae, and that cutting secondary chordae adversely impairs left ventricular systolic pump performance.

Finally, we would stress that each strut chorda belongs to a given functional unit (Figure 1), anterior or posterior papillary muscle complexes (PMCs). Thus, it is mandatory to determine which PMC is involved predominantly in the tenting process, or in other words, the culprit strut chorda should be individualized. In our opinion, the management of mechanical imbalance between 2 PMCs resulting in leaflet tethering should be assumed by a selective restoration of the geometric relationships of the culprit PMC according to the annular plan⁵ rather than by suppressing the principal mediators of valvular-ventricular continuity.

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Reply to the Editor:

Dr Aazami offered several criticisms of our work:

First, the chordal cutting approach was associated with the coronary artery bypass graft (CABG) procedure. The rationale for that is widely documented. Indeed, several reports have demonstrated that residual mitral regurgitation (MR) after CABG is associated with more frequent episodes of severe angina and more severe symptoms of heart failure.¹⁻³ The SAVE study (Survival And Ventricular Enlargement) suggested that mild ischemic MR was associated with high mortality.⁴ In addition, Trichon and colleagues⁵ suggested that CABG plus mitral valve surgery might be a superior strategy in the appropriate patient population. Thus, it is obvious from our

point of view that chordal cutting should be performed in every single patient with chronic ischemic MR and coronary lesions. We believe that this reported case strongly demonstrates the importance of combined medical and surgical treatment of ischemic MR and shows the value of preoperative evaluation of the degree of MR on exercise echocardiography to unmask severe MR (Figure 1, A and B).

Second, we have found that preoperative transesophageal echocardiography performed by reliable and experienced hands provides complete and reliable information regarding mitral valve dysfunction, preoperatively guiding our surgical strategy. Although the superior left atrial approach might be an effective one, in our experience, when MR was found to be due to a restrictive mechanism with a tenting phenomenon of the anterior mitral valve leaflet, the aortotomy approach always provided direct and excellent access to the basal chordae attached to the center of the anterior leaflet. Four procedures have been done so far using this technique. We did not encounter any mitral an-

Figure 1. A and B, Preoperative 2-dimensional echo analysis. A, Anterior leaflet angulation at the basal chord insertion with apical tenting relative to the annulus, bent anterior to the leaflet base, and moderate MR at rest. B, Severe MR on exercise. C and D, Follow-up 2-dimensional echo analysis. C, Normal mitral coaptation at the baseline without anterior leaflet bend or color Doppler MR despite important left ventricular dilatation. D, Mild MR on exercise.