Letters to the Editor

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Malignant margin in wedge resection for peripheral lung cancer and adjuvant radiotherapy

To the Editor:

We read with interest the article by Shennib and associates¹ regarding wedge resection and local radiotherapy for peripheral lung cancer in high-risk patients. They stated that pathologically staged T1 lesions can be successfully resected in 75% of cases; however, narrow resection margins remain a concern. Knowing the efficacy of local radiotherapy, the type of failure, whether there is local-regional recurrence, and the malignant status of surgical margins is crucial.

To obtain an accurate diagnosis of malignant status at the surgical margins is sometimes difficult because stapled resection is most frequently used. Staples have to be removed to examine the margins pathologically. Therefore pathologic diagnosis with frozen sections is not an option, although a method of cytology can be used to diagnose the malignant status of surgical margins. We found that a cytologic method to diagnose the malignant status of surgical margins can predict the risk of recurrences at the surgical margins.² In addition, we found that an optimal distance from the tumor to the surgical margin was more than the maximum tumor diameter to obtain a safe margin. In the recent issue the authors defined a sufficient margin distance to be more than 1 cm. When a tiny peripheral lesion less than 1 cm in diameter is re-

moved, margin distance of less than 1 cm could be sufficient. Margin distance and margin cytology could be criteria of adjuvant radiotherapy.

It is generally accepted that limited lung resection is safe and effective in a selected group of patients. However, there is a great concern about local-regional recurrences. The percentage of local-regional recurrences is reported to be 39% in a study containing more than 100 cases conducted by Landreneau and coworkers.³ Radiation therapy has been indicated, either brachytherapy^{4,5} or local radiotherapy,¹ to prevent such failures. As such, type of failure is a matter of concern. As shown in Table 1, Lee and colleagues⁴ and Fernando and associates⁵ reported that the local-regional recurrence ratio was reduced to 2% to 6% in a group of patients who underwent wedge resection and brachytherapy. Unfortunately, the frequency of recurrences is not stated in the recent report.¹ In addition, an adverse effect of pneumonitis was observed in 14% in cases of local radiotherapy. Considering this, brachytherapy might be a more acceptable method than local radiotherapy if the local-regional recurrence ratio was more than or equal to that of brachytherapy.

Adjuvant radiotherapy in cases of limited resection of lung cancer might be a hopeful treatment in selected patients. Accurate diagnosis of the malignant status of surgical margins and efficacy to prevent surgical margin recurrence are matters

TABLE 1. Local recurrence after wedge resection and regional radiotherapy for peripheral lung cancer

Authors	Year	N	Selection	Complication pneumonitis (%)	Local-regional recurrence (%)
Lee et al ^{4*}	2003	31	Compromise	0	6
Fernando et al ^{5*}	2004	154	Compromise	0	2
Shennib et al†	2004	27	Compromise	14	NA

NA, Not applicable. *Brachytherapy with iodine 125. †Local radiotherapy.

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-