Discussion
Dr Alex G. Little (Dayton, Ohio). I think we would all agree that any collection of this large number of patients deserves to be analyzed and thought about carefully. That said, I am going to get to three areas in which I have some questions. One is to make a statement with which I know you agree because of having had the opportunity to read your manuscript and your identification of the limitations. The statement is that the validity of any clinical review of patients with IA disease really is dependent on the accuracy of the staging process that classified those patients. That being said, I do not think the concern of some patients with actual stage III or II disease being included weakens your conclusions, because presumably on a random basis the patients would have been evenly distributed. However, I think it really undermines the point of negating any observations about long-term survival of patients with IA disease because we just do not know that this is really a clean collection of patients with stage IA disease. Would you comment on that, please?

Dr Chang. Yes, I agree. If you look at the entire cohort, it is difficult to reach the conclusion that 5-year survival is 58% because of this issue of understaging. I think some of the predictors we looked at probably are valid. For example, there is no reason to think that the men were understaged more than the women, so that difference probably remains valid even if the numbers themselves may be slightly higher in a carefully staged population of patients.

Dr Little. With that in mind, you might think about modifying your manuscript and not being too declarative about the survival of just patients with IA disease.

The second question has to do with the issue of the wedge resections. There are wedge resections and then there are wedge resections. Do you have any information about whether or not there were frozen section analyses done of the margins? Do we really know that those were “good” wedge resections?

Dr Chang. No, the database does not contain information on margin status.

Dr Little. I do not think any of us really wants to stoutly defend that being the ideal choice for lung cancer; nonetheless, the results might have been better had those wedge resections been quality-controlled.

Dr Chang. That is absolutely correct.

Dr Little. Finally, there is an old saying: A difference to be a difference must make a difference. What difference does it make to us as clinicians to have this information? Would you suggest that patients with some number of these negative prognostic factors should be treated differently—not operated on, operated on with smaller operations, receive multimodality therapy, either adjuvant therapy or neoadjuvant? What can we take home from this that will affect our patient care?

Dr Chang. We do not suggest that these results are the best that are achievable. Looking at carefully controlled and staged single-institution studies would give us a better idea of what is the best possible practice. Looking at carefully controlled and staged single-institution studies would give us a better idea of what is the best possible practice. What this does show is the current state within the United States of patients who are deemed to have stage IA disease, and I think these results raise the issue that many patients are probably not being staged properly. I think understaging accounts mostly for the difference in survival between this study and single-institution studies.

Dr Little. I agree. Thank you.

Dr Nasser K. Altorki (New York, NY). I enjoyed your presentation.

I have two questions. First, have you had an opportunity to look at the effect of cell type, squamous versus nonsquamous histologic types? Second, you have presented us, I presume, with overall survival/all-cause mortality. Have you had an opportunity to look at lung cancer–specific deaths?

Dr Chang. Thank you for your question. The data on cell type are available in the SEER database. There were about 42% adenocarcinomas and about 25% squamous cell carcinomas. However, we did not look at the impact of histology on survival. With regard to all-cause mortality, there is a variable within the database indicating the cause of death, but we believed that this was probably a fairly unreliable variable because it is abstracted from death certificates. Often, the cause of death on a death certificate is listed as cardiac arrest or multisystem organ failure without any autopsy data. We thought that that was probably a fairly unreliable way to look at survival. Therefore, you are absolutely correct; this is all-cause survival.

Dr Todd Demmy (Buffalo, NY). Regarding age, why did you use 67 as your age dichotomizing cut point? Did you look at the population of early emerging lung cancer? There have been reports of patients presenting in their 40s and 50s with lung cancer having a worse biological disease. Did you look at your data for the young group of patients presenting with lung cancer?

Dr Chang. Thank you for your question, Dr Demmy. We did not specifically look at the younger populations. We did analyze age as a continuous variable, and age was a significant predictor of survival. We chose to dichotomize age to make interpretation of the results easier. But we did not go through and look at multiple quintiles and specifically focus on the younger patients. However, you are correct in that with a cohort of this size, we do have the power to examine survival in the very young patients. This additional analysis would be very worthwhile.

Dr David H. Harpole, Jr (Durham, NC). I know that the SEER data are localized. Did you look at any volume determinants versus survival? In other words, did you look in the SEER set to see the sites that were low volume versus high volume and see whether that translated into a long-term survival difference? Along the same vein, I think some SEER data have universal physician identification numbers (UPIN). I do not know how much of that information you have. Could you drill it down to type of surgeon? We have thought about doing this in administrative databases where you can look at the type of surgery done by the UPIN–derived surgeon to see whether you could separate actually who did the operation, because you may find that some of these wedges were actually not high comorbid but maybe were not necessarily done by a thoracic surgeon. That could be interesting data as well if you are able to get that.

Dr Chang. Thank you for your question and comment. I am not aware that the UPINs are available in the SEER database. I do know that the hospital where the procedure was performed is not available in the SEER database. Hospital identification information is available in the SEER–Medicare database, which we have not looked at. The downside of the SEER–Medicare database, of course, is that patients under age 65 are not in the SEER–Medicare database.