operative, 30-day mortality and those who were lost to follow-up were excluded. However, patients undergoing exploratory thoracotomy were included. Follow-up information between 12 and 36 months after surgery was available for the remaining 1,749 patients. The results are shown in Table 1.

In this preliminary survival analysis, a progressive degradation of survival as tumor stage increases is found. However, differences in survival between some stages did not reach statistical significance. In our study, pathological stages IB and IIA and IIA and IIB seem to have the same prognosis. Others have reported similar results.\(^6\) This may be because of the few number of patients in stage IIA. Survival differences in pathological stages IIB and IV do not reach statistical significance, either. The few number of patients in stage IV and the fact that this is a highly selected group with surgical treatment may contribute to its similarity to stage IIB.

In conclusion, although the new staging system seems to have an overall prognostic significance, the prognosis of some of the new stages seems to be the same.

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To the Editor:

The Grupo Cooperativo de Carcinoma Broncogénico de la Sociedad Española de Neumología y Cirugía Torácica (GCCB-S) is to be congratulated for studious documentation and analysis of its surgical end results. The reported probability of survival at 36 months, according to surgical-pathologic stage, is remarkably similar to that which I have published.

The classification of T1N1M0 cases by stage of disease is problematic because of the relative rarity of this observed extent of disease. It constituted only 0.5% of the population in my original study as clinically staged and 4% of the surgical group while representing only 1% of the Spanish surgical cases. We are in agreement that there is no statistically significant difference in survival between T2N0M0 (stage IB) and T1N1M0 (stage IA).

Whether the small survival differences we observed are clinically meaningful is, therefore, debatable. However, in accordance with long-standing concepts of designating disease extent, stage I was to include only subsets of patients with no evidence of metastasis. Therefore, placing T1N1M0 cases as a unique stage IIA group seemed rational. Clearly, survival analysis of a much larger group of T1N1M0 cases (carefully staged both clinically and surgically) is needed to determine if a more appropriate placement of this subset should be made.

Dr. Rami-Porta also states that stages IIA and IIB have the same prognosis in the GCCB-S series. The basis for this is not clear as the data show a 12 to 15% survival expectation difference at 12, 24, and 36 months. We found a 17% difference (p<0.05) between these surgical-pathologic stages at 36 months and 16% (p<0.05) at 60 months.

Because of the relative rarity of events, I did not report surgical-pathologic survival for stages IIB and IV. Comparison of all clinical stage IIB subsets (M0) with stage IV (M1) shows a statistically significant difference in survival at all points in time through 60 months.

It is a basic tenet of anatomic staging that the rules for classification are derived from clinical information. All patients are clinically staged, but only a fraction of the population is amenable to surgical resection and surgical-pathologic classification. Surgical adjuvant treatment strategies and comparisons between surgical and nonsurgical treatments can only be prospectively and randomly evaluated with clinical staging. Accordingly, evaluations of the International Staging System must also include data on clinically staged cases. We look forward to learning of such results in future publications of the GCCB-S.

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Avoiding Air in Pleural Fluid pH Samples

To the Editor:

Goldstein and colleagues are to be congratulated on obtaining a good agreement of pleural fluid pH values between samples collected directly from the chest versus indirectly from a large (plastic?) syringe.\(^1\) However, they failed to describe exactly how they made the syringe-to-syringe transfer, and their results suggest that the fluid remained "anaerobic," or nearly so. I am concerned that this report may inadvertently encourage a casual approach to the handling of such specimens.

An informal survey of senior medical residents' bedside practices (plus 15 years of observation) indicates that physicians handle samples for pleural fluid pH determination in a variety of ways. These include dripping or squirting the fluid into a blood gas syringe after collection, aspirating it from a large collection bag into a blood gas syringe, injecting it into a red-top chemistry tube, switching syringes with the needle in place in the chest, and doing a "second stick" (the direct method, which few use). Opinion also varies as to heparin: most use it (the specimen may clot), but some have been taught to avoid it (the pH may be artifactually diminished). The majority of house staff questioned were unaware of the need to keep samples for pH unexposed to air.

I often observe pleural pH values which exceed those in the blood by 0.1 to 0.2 units or more. While such differences may be real to some extent, particularly in transudates,\(^2\) it is likely that some values are spuriously high due to faulty collection technique. It appears that further data on the potential magnitude of error would be of use, as would further education on this topic. Meanwhile, use of a 3-way stopcock can facilitate anaerobic collection from the pleural space without entailing an additional chest tap.

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