Therapeutic Thoracoscopy Under Local Anesthesia

To the Editor:

We read with great interest the report by Nezu et al on thoracoscopic bullectomy performed under local anesthesia for the treatment of spontaneous pneumothorax (January 1997). The authors selected patients with no pleural adhesions (by air insufflation and then x-ray), and they tried to identify their bullae preoperatively by using CT scans. They compared their results with those of a historical group in which the same procedure was performed under general anesthesia; they then concluded that the approach using local anesthesia is safe and is associated with a shorter hospital stay.

We would like to raise four points. First, in our experience, it is relatively unusual for recurrent primary spontaneous pneumothorax not to have any adhesions, as the natural history of a ruptured bulla is eventual adhesion to the chest wall. Therefore, if this selection criteria is strictly followed, it seems that the described procedure will be applicable only to a relatively small group of patients. Second, although a CT scan can confirm the presence of apical bullae, it fails to identify ruptured bullae or blebs, which can coexist with unruptured bullae. The former requires careful thoracoscopic examination, which is more difficult to carry out in a spontaneously ventilating lung. Third, the authors did not compare subjective or objective pain measurements (by visual analogue scale or analgesic requirements) between the two groups. The reported average postoperative hospital stay of 4.5 days in their local anesthesia group, although less than the 5.8 days reported in their general anesthesia group, is still longer than our result of 3.0 days in over 200 consecutive patients, whose procedures were all performed under general anesthesia. Fourth, mechanical pleurodesis and pleurectomy, which are believed to be important components of surgical treatment, are difficult to perform under local anesthesia. Besides, this leaves virtually no safety margin if major intraoperative complications do occur.

Although bullectomy under local anesthesia is technically feasible, the claim that this approach is superior to its counterpart performed under general anesthesia with selected one-lung ventilation may be a little premature.

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To the Editor:

We thank Drs. Yim and Izzat for their very pertinent comments on our article (January 1997). First, they claimed that recurrent primary spontaneous pneumothorax without any pleural adhesions is relatively unusual. However, we disagree; 56% of our patients with recurrent pneumothorax were preoperatively diagnosed by the air-infusion test to be practically free from adhesions. We have to admit that there might have been minimal adhesions present in such patients, and that our description may have been a little extreme. However, there were many patients with recurrent pneumothorax who were practically adhesion-free. Furthermore, we operated on the patients within a relatively short period after the onset of recurrent spontaneous pneumothorax, which may have influenced the higher ratio of the adhesion-free patients in our series.

As for their second claim, we agree that CT scans fail to identify ruptured bullae or blebs coexisting with unruptured bullae. Although they mentioned the difficulty in locating ruptured bullae in the lung of a patient receiving mechanical ventilation, we can control the expansion and collapse of the lung using a valved port with an insufflation stopcock, with the patient under local anesthesia and sedated, as described in our paper.

In response to their third question, we did not perform subjective or objective pain measurement between the two groups during or after the operation. However, there are no apparent clinical differences between the two groups in terms of complaints of pain. As for the average duration of postoperative hospital stay, our results (4.5 and 5.8 days for the local and general anesthesia groups, respectively) were longer than those obtained by Yim. However, there may be many differences in his circumstances and ours, such as social medical insurance systems. Under such conditions, we do not think it is appropriate to simply compare the durations of hospital stay.

We agree with their fourth comment about the importance of mechanical pleurodesis or pleurectomy in the management of spontaneous pneumothorax. We do only fibrin glue pleurodesis in our procedure, and other pleurodesis procedures are hardly required because of the low recurrence rate of 3.1%. Fibrin glue pleurodesis can be easily performed with the patient under local anesthesia and sedated; this was the method we used for simple cases.

Certainly, our procedure is not applicable to all of the patients with spontaneous pneumothorax at this time. However, considering several advantages, such as its minimal invasiveness, this procedure can be used as an alternative for selected patients with uncomplicated spontaneous pneumothorax.

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