Correspondence

Do-it-yourself modified right-sided Broncho-Cath™ double lumen tube

To the Editor:

We were interested to read the study by Bussires *et al.*¹ comparing the commercially available right-sided Mallinckrodt endobronchial tube with a modified version including an enlarged lateral orifice. We have modified our right-sided double-lumen tubes (R-DLT) in a similar fashion for some time and have found increased facility of placement and less need for manipulation. More important than ease of placement, this clearly increases the margin of safety of the R-DLT, as movement during surgical manipulation is less likely to obstruct the right upper lobe orifice in a clinically significant fashion.

Some caution is required when enlarging the lateral orifice, however, for three reasons. First, as described by the authors, endobronchial cuff integrity needs to be tested. Second, cuts should be bevelled, as sharp edges carry the potential for mucosal injury. Lastly, mediastinal shift in the lateral decubitus position can result in tissue herniation into the lumen. This is a definite problem when completely extending the lateral orifice distally, as described by Mercier and Fischler, because of loss of airway stenting ability.² Regarding the latter, we wonder whether the authors observed some degree of herniation considering their 180 aperture?

Based on our experience, and confirmed by this study, this modification should be integrated into existing R-DLT designs by Mallinckrodt *et al.* We hope that the process of patent application will not delay its potential introduction into the market. One would expect that with this modification anesthesiologists (and surgeons) will move beyond their aversions to the R-DLT and more rationally and routinely apply these tubes for lung isolation. Until then, we will continue to make this simple modification in the operating theatre, immediately prior to the procedure, with sterile scissors.

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Accepted for publication April 25, 2007.

References

- 1 Bussires JS, Lacasse Y, Cote D, *et al.* Modified right-sided Broncho-Cath™ double lumen tube improves endobronchial positioning: a randomized study. *Can J Anesth* 2007; 54: 276–82.
- 2 Mercier FJ, Fischler M. Is it possible to improve the shape of right double-lumen endobronchial tubes? *J Cardiothorac Vasc Anesth* 1995; 9: 236.

Reply:

We appreciate the interest and comments of Drs. Lohser, Umedaly and Fitzmaurice regarding our recently published article. We do, however, caution about using a “do-it yourself” modified right sided-double lumen tube (mR-DLT). Modifications of anesthetic equipment and other medical devices without formal regulatory approval should be done cautiously. For our study, we proceeded with the collaboration of our institutional biomedical engineers using strict protocols.

Concerns have been expressed regarding mucosal herniation related to an enlarged R-DLT lateral orifice. We have observed this phenomenon only occasionally in our clinical experience involving over 500 cases (since 2000). None of these cases resulted in complications, and no herniations occurred during our reported study, which we attribute to the rigorous protocol which was applied for positioning the R-DLTs. Accordingly, we are confident that careful placement of the modified R-DLT placement will limit such complications.

Finally, in response to the recommendation that Mallinckrodt or other manufacturers should integrate this modification into R-DLT design, we could not agree more.

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