Quality assurance in endobronchial ultrasound

In their study of endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA), Kemp and colleagues report variation in the learning curves for five operators, studied by using the cumulative sum (cusum) technique, with which we have some experience. The authors speculate on whether variations in lymph node size, prevalence of underlying diagnoses or rate of accrual of cases may explain these differences. We believe there may be other important influences. Successful EBUS-TBNA is a multidisciplinary process: help is invaluable from colleagues in radiology for identification of suitable target nodes, in bronchoscopy nursing for adequate specimen preparation and in cellular pathology for confident diagnosis based on cytopathological specimens alone. In our experience, each of these aspects is subject to variation between centres. In addition, it is likely that access to prior positron emission tomography (PET) scanning, or different immunocytochemical stains, may have varied. In our view the results should be regarded as being those of the centres in question, and not those of the operators alone.

Kemp and others appear to have misinterpreted the cusum plots shown in their figure 1. The authors use the graphical representation of the cusum favoured by Kestin. In this representation, if the plot crosses two boundaries in succession from below, without crossing a boundary from above in between, unsatisfactory performance is confirmed for the procedure interval between the two upward crossings. Competence is confirmed by analogous downward crossing of two boundaries. Thus operator 4 demonstrates unacceptable performance between procedures 50 and 70 (these procedure numbers are approximate because the graphs reproduced are too small to permit their exact estimation), and to say that he has ‘attained competence almost immediately’ is not the whole story. Similarly the cusum of operator 2 demonstrates unacceptable performance during the following procedure intervals: 32–43, 43–80 and 80–96. It never demonstrates satisfactory performance. Indeed, the only procedure intervals for which competence is confirmed in figure 1 or figure 2 are procedures 75–95 for operator 1 and 7–47 for operator 4. Therefore, only operator/centre1 demonstrates competence by the end of the first 100 procedures. Indeed this is the only operator/centre with evidence of any learning—the others perform no better after 100 procedures than before. An alternative interpretation of the results, therefore, is that for some, and possibly most, operators or centres, no learning curve is expected in EBUS-TBNA at all, provided that standards substantially lower than those in the published literature are accepted.

Mark G Slade, Gerry C Slade
Department of Thoracic Oncology, Papworth Hospital NHS Foundation Trust, Papworth Everard, Cambridge, UK

Correspondence to M G Slade, Department of Thoracic Oncology, Papworth Hospital NHS Foundation Trust, Papworth Everard, Cambridge CB23 3RE, UK; mark.slade@nhs.net

Competing interests None.

Contributors MGS and GS contributed to the writing of this letter and have approved its contents.

Provenance and peer review Not commissioned; externally peer reviewed.

Accepted 22 July 2010

Thorax 2010;65:1. doi:10.1136/thx.2010.145284

REFERENCES


2. Slade MG, Pengelly GC. Cusum analysis to assess competence at transbronchial needle aspiration (TBNA): how many are enough? Thorax 2004;59:i66.


Quality assurance in endobronchial ultrasound

Mark G Slade and Gerry C Slade

Thorax published online September 23, 2010

Updated information and services can be found at:
http://thorax.bmj.com/content/early/2010/09/23/thx.2010.145284

These include:

References

This article cites 4 articles, 3 of which you can access for free at:
http://thorax.bmj.com/content/early/2010/09/23/thx.2010.145284#BIBL

Email alerting service

Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Notes

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/