**Outcome after pneumonectomy**

Editor—We read with interest Powell and colleagues’ report of the UK Pneumonectomy Outcome Study (UKPOS) which provides a fascinating insight into contemporary thoracic anaesthetic practice. The authors somewhat sensationally conclude that thoracic epidural blockade (TEB) is associated with ‘an increased incidence of clinically important major post-pneumonectomy complications’ when compared with paravertebral blockade (PVB). We question the validity of this conclusion. While we acknowledge that due to small numbers (no fault of the investigators, rather a reflection on the number of pneumonectomies being carried out in the UK each year), the use of a composite endpoint for major complications is a necessary evil, our concerns regard the choice of endpoints.

First, while the UKPOS’ published aim was to identify peri-operative risk factors that predict length of stay, morbidity, and mortality rates after pneumonectomy, we question whether any criterion of what constitutes ‘morbidity’ or a ‘clinically important major complication’ (the reported primary endpoint) was established before data collection. The data collection sheet provided to investigators (available online at http://www.biomedcentral.com/content/supplementary/1749-8090-4-41-S1.doc) provides no definition of either morbidity or complication, simply requesting collection of information surrounding ‘post-operative complications (list organ systems and exact complications for respiratory, cardiovascular, renal, hepatic systems, sepsis, multi-organ failure)’.

Secondly, when discussing their methodology, the authors refer to their original publication of the same study. In this report of the same 312 patients, the composite endpoint of major complications is a different one. Without explanation, in the recent study, the authors have subtly reworded and expanded their primary endpoint from ‘death within 30 days, treated cardiac arrhythmia or hypotension, unplanned intensive care admission, further surgery or inotrope usage’ to ‘significant arrhythmias requiring antiarrhythmic, noteworthy haemodynamic instability requiring inotropes, severe respiratory complications requiring mechanical support, unexpected ICU admission, further surgery or 30 day mortality’. It would be understandable if the authors had chosen to expand their endpoint in their subsequent analysis of analgesia and outcome to increase the number of complications and perhaps tease out a subtle effect invisible in the primary analysis, yet the overall number of major complications remains constant [total of 133 complications in 99 of 312 patients (31.7%)]. Why then did the authors change the primary outcome and select this group of composite endpoints?

Finally, we question the validity of ‘treated hypotension’, ‘inotrope usage’, or ‘noteworthy haemodynamic instability requiring inotropes’ as an endpoint (again, no definition of hypotension is provided in the paper nor the data collection form; in addition, no distinction is made between inotrope and vasopressor—we infer as is common practice the term inotrope is used to describe both). We recently carried out a survey of UK thoracic anaesthetic practice, which found that 35% of anaesthetists practicing TEB for postoperative analgesia after lung resection via open thoracotomy ‘routinely’ utilize a vasopressor infusion during the postoperative period compared with 11% of anaesthetists practicing PVB. Thus, we argue that the observed difference in ‘hypotension requiring inotropes’ between the two groups (which bears statistical significance in itself and provides much of the statistical weight of the overall difference in complication rate between groups) reflects a difference in standard anaesthetic practice rather than a difference in ‘clinically important major complications’.

The authors conclude that this study is unable to provide robust evidence on which the thoracic anaesthetist could change practice. We question the ability of this study to provide any evidence of a difference in outcome between analgesic techniques. We agree with the authors however that ‘a large multicentre randomized controlled trial’ is required to answer this question and eagerly await the results of such a study.

**Conflict of interest**

None declared.

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