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Authors' Reply

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We thank Vorster and Licker and their colleagues for the interest in our study recently published in *Respiration* [1]. Indeed, the available data reported in the letter by Vorster et al. [2] suggest a study population (age) and duration of procedure comparable to those in our study. Another similarity is that adverse events – such as desaturation requiring supplementary oxygen or temporary bag valve ventilation as well as hypotension requiring intravenous fluid resuscitation – were more frequently encountered in the propofol group as compared to the midazolam group. Indeed, one procedure in the propofol group had to be aborted.

Licker and colleagues [3, 4] outline their study in detail, analysing the feasibility and safety of a bispectral-index-guided propofol sedation for medical thoracoscopy. Hypotension, as defined by a systolic arterial pressure of <100 mm Hg or a mean arterial pressure of <60 mm Hg, was encountered in 34 of their patients (64.1%), corresponding to a rate of hypotension similar to our results. By contrast, more patients in our trial were observed to be hypoxaemic at least once during the procedure. Potential explanations for this discrepancy include – as already mentioned in part in the letter by Licker et al. [3] – the difference in study population (as reflected by ASA class) and in the definition of hypoxaemia (oxygen saturation of <90% lasting ≥ 120 s vs. oxygen saturation of $\leq 90\%$ independent of its duration). In view of the similar incidence of hypotension, their undoubtedly plausible sedation regimen remains arguable as an explanation for the difference in hypoxaemia.

As already mentioned in our conclusion, we fully agree with Vorster et al. [2] that propofol should not be considered the first choice for sedation in medical thoracoscopy, especially in high-risk patients with co-morbidities. Conversely, we and others have demonstrated that sedation with propofol can be reliably and safely performed by a non-anaesthesiologist during flexible bronchos-

copy [5–8]. Thus, sedation in interventional pulmonology should be adapted to the procedure. In our view, propofol should be considered the drug of choice in flexible bronchoscopy, while the combination of midazolam/hydrocodone represents the better alternative for medical thoracoscopy.

As extensively outlined in the limitations section of our article, hypoxaemia was used as a surrogate marker for morbidity and mortality as the endpoint of the study. Due to the rarity of lethal complications in the setting of medical thoracoscopy (0.05–1%), the estimated sample size for a study identifying a clinically relevant difference in mortality between the groups (such as 0.5%) would be over 15,000 patients. Even the use of a composite endpoint, combining relevant complications, would require over 1,500 patients [9]. Given these figures and taking into account the results reported both in our study and in the letter by Vorster et al. [2], we respectfully doubt the feasibility and ethical adequacy of such a randomized multicentre study.

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