

Author response to: Comment on: Outcomes after totally minimally invasive versus hybrid and open Ivor Lewis oesophagectomy: results from the International Esodata Study Group

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Dear Editor

We thank the authors for their comments on our study¹. We would be happy to elaborate further on the questions raised by the authors.

We agree with the authors that additional variables would be interesting to take into account for the primary outcome. In a statistical analysis, however, the number of confounders that can be included is limited. We therefore deliberately limited the number of confounders to those described to have the greatest potential effect on the primary and secondary outcomes.

The authors point out that there were differences in baseline characteristics in terms of preoperative treatment, tumour location, and clinical nodal status. We included these possible confounders for the outcomes in our multilevel mixed statistical model. It could, therefore, be concluded that surgical approach

was an independent factor associated with pneumonia, despite these differences in baseline characteristics.

Finally, we believe that a proficiency gain curve could have an effect on our results. As the data were anonymized, they were not sufficient to correlate the proficiency gain curve with postoperative outcomes. It should be noted, however, that all participating hospitals were high-volume centres and that the most experienced centres did not have the lowest anastomotic leakage rates *per se*.

Reference

1. van der Wilk BJ, Hagens ERC, Eyck BM, Gisbertz SS, van Hillegersberg R, Nafteux P *et al*. Outcomes after totally minimally invasive versus hybrid and open Ivor Lewis oesophagectomy: results from the International Esodata Study Group. *Br J Surg* 2022;**109**:283–290