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COMMENT

Is surgeon annual case volume related with intra and postoperative complications after ventral hernia repair? Authors' reply

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Dear Editor,

We thank Dr. Wang and colleagues for their thoughtful interest in our recently published article, *"Is surgeon annual case volume related to intra- and postoperative complications after ventral hernia repair? Uni- and multivariate analysis of prospective registry-based data"* [1, 2]. Their inquiries address three topics: the nature of the registry-based data, the variability of the type of hernia repair surgeries, and the definition of recurrence used in our study.

The *Club Hernie* database is a prospective registry in which participating surgeons must sign the Charter of Quality. This charter stipulates that all data must be recorded in a consecutive, unselected, exhaustive manner and in real time. This commitment, combined with the unparalleled scale of the database in hernia surgery and the diverse group of surgeons contributing patient data, enhances its reliability. While we acknowledge that registry-based data may not be the ideal format to address our research question definitively, this registry provides a robust approximation.

Regarding the different types of hernia repair procedures, we recognize the varying degree of technical complexity. These variations indeed pose challenges when interpreting outcomes of the overall study population. Nevertheless, given the limited sample size within each individual category, we believe our combined analysis offers the strongest possible evidence of the varying impact of annual surgical volume on outcomes. Specifically, we consider primary hernia repairs to be less technically demanding and thus requiring a lower minimum annual case volume compared to incisional and parastomal hernia repairs as can be seen in the subgroup analyses.

With respect to assessing recurrence rate, follow-up imaging using CT or ultrasound is recommended by the European Hernia Society [3]. Although this will most reliably determine the 'true' recurrence rate, it will also result in detection of asymptomatic recurrences. This was the reason to use patient-reported "feel-a-bulge" outcome, which we consider to be a meaningful indicator of the clinical burden posed by recurrent hernias. We agree that recurrence requiring reoperation is also an important outcome parameter from a patient and societal perspective. Nevertheless, not all patients with symptomatic recurrence will undergo surgery, thereby underestimating the proportion of clinically relevant recurrences when using reoperation as an indicator.

Finally, we do think that reduction in intraoperative complications, postoperative complications, and ICU length of stay are important improvements that should be taken into account besides recurrence when discussing surgical experience and centralization of complex hernia surgery.

Declarations

Conflict of interest R. van den Berg, F.P.J. den Hartog, A.G. Menon, P.J. Tanis and J.F. Gillion declare that they have no conflict of interest.

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