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Response to “Comment on Single-shot regional anesthesia for laparoscopic cholecystectomies: a systematic review and network meta-analysis”

Dear Editor,

We would like to extend our gratitude to Dr. Raghuraman for his keen interest and invaluable insights [1] pertaining to our research article [2].

We acknowledge that the sentence in the introduction highlighted by Dr. Raghuraman could be confusing. It would be more accurate to state that numerous meta-analyses have examined different facets of laparoscopic cholecystectomy [3], and a subset of them have placed a specific emphasis on pain management and analgesic needs.

Furthermore, we agree with Dr. Raghuraman's point regarding the disproportionate representation of groups in our study, which rendered the results inconclusive. Indeed, very few studies were included for certain techniques, such as the paravertebral block (2 studies in-

volving 63 patients) and rectus sheath block (3 studies involving 86 patients). In contrast, a larger population was included for other techniques, such as intraperitoneal instillation (1,490 patients across 37 studies). Additionally, not all studies examined all the outcomes, as noted by Dr. Raghuraman.

Therefore, our study should not be considered the final authority on the subject, but rather an initial analysis of the available literature. Of note, a recent publication [4] has proposed a consensus-based core outcome set for research on regional anesthesia. As this would lead to a greater standardization of outcomes and thus enhance the reliability of future meta-analyses, we hope this framework will be adopted in future studies. However, as stated in the above-cited document, only a core set of outcomes were included, and shoulder pain should be included as it is important in laparoscopic cholecystectomy.

In response to Dr. Raghuraman's last question, we would like to clarify that the mechanism of action of the transverse abdominis plane block is significantly different from that of the rectus sheath block. However, the most effective interventions in our meta-analysis were regional techniques that addressed visceral pain, such as the paravertebral, quadratus lumborum, and erector spinae plane blocks. This can be clearly observed in Table 2 of the original document, which shows the treatment rankings [2]. Although the paravertebral block did not rank high for most outcomes, this was primarily because of the limited number of studies and participants included in the analysis.

Further research is required to determine the optimal regional techniques for laparoscopic cholecystectomy. However, we advocate for anesthesiologists to adopt a multimodal strategy that addresses somatic, visceral, and shoulder pain, as highlighted by Dr. Raghuraman.

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