



In reply: Spinal anesthesia for Cesarean delivery in obese parturients: is this the best option?

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To the Editor,

We thank Dr. Halpern for his letter and positive reflections on our trial.^{1,2} We do agree that epidural anesthesia is indeed an option for cesarean delivery, though in our usual practice we generally prefer spinal anesthesia related to the overall better block quality and less need for supplementation or conversion to general anesthesia compared with epidural techniques.³ We believe avoidance of general anesthesia is a primary goal in the obese population to avoid the potentially difficult airway.⁴ The inability to extend the duration of the block with a single-shot spinal technique may be a concern in the morbidly obese where the positioning and surgical procedure can take an extended period of time. The mean body mass index in our study participants was approximately $41 \text{ kg}\cdot\text{m}^{-2}$ with surgery duration < 60 min. In this cohort of patients, we still prefer the efficiency and efficacy of spinal anesthesia.

Phenylephrine infusions do reduce the risk of spinal anesthesia-induced hypotension and subsequently the side effects of intraoperative nausea and vomiting while improving the neonatal acid-base status.⁵ Improved acid-base status with epidural compared with spinal anesthesia was likely associated with the use of ephedrine to treat hypotension, whereas recent evidence found no difference

in acid-base status between spinal and epidural anesthesia with phenylephrine.⁶ The use of a combined spinal-epidural anesthesia at the L3/4 or L4/5 interspace may be technically easier than single-shot spinal anesthesia in the morbidly obese, also offering the flexibility to extend the duration of the block if needed.⁴ With a carefully chosen intrathecal dose, a combined spinal-epidural is our preferred technique in the morbidly obese parturient (body mass index > $50 \text{ kg}\cdot\text{m}^{-2}$).⁴

Conflicts of interest None declared.

Editorial responsibility This submission was handled by Dr. Hilary P. Grocott, Editor-in-Chief, *Canadian Journal of Anesthesia*.

References

1. Halpern S. Spinal anesthesia for cesarean delivery in obese parturients: is this the best option? *Can J Anesth* 2018; 65: DOI: <https://doi.org/10.1007/s12630-018-1128-9>.
2. George RB, McKeen DM, Dominguez JE, Allen TK, Doyle PA, Habib AS. A randomized trial of phenylephrine infusion versus bolus dosing for nausea and vomiting during cesarean delivery in obese women. *Can J Anesth* 2018; 65: 254-62.
3. Riley ET, Cohen SE, Macario A, Desai JB, Ratner EF. Spinal versus epidural anesthesia for cesarean section: a comparison of time efficiency, costs, charges, and complications. *Anesth Analg* 1995; 80: 709-12.
4. Lamon AM, Einhorn LM, Cooter M, Habib AS. The impact of body mass index on the risk of high spinal block in parturients undergoing cesarean delivery: a retrospective cohort study. *J Anesth* 2017; 31: 552-8.
5. Allen TK, George RB, White WD, Muir HA, Habib AS. A double-blind, placebo-controlled trial of four fixed rate infusion regimens of phenylephrine for hemodynamic support during spinal anesthesia for cesarean delivery. *Anesth Analg* 2010; 111: 1221-9.
6. Strouch ZY, Dakik CG, White WD, Habib AS. Anesthetic technique for cesarean delivery and neonatal acid-base status: a retrospective database analysis. *Int J Obstet Anesth* 2015; 24: 22-9.

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