



## Correspondence

### Does a prophylactic phenylephrine infusion really reduce shivering after spinal anesthesia?



In a recent randomized clinical trial by Palanisamy et al. the incidence of shivering and degree of hypothermia were significantly reduced following the administration of a prophylactic phenylephrine infusion during cesarean delivery (CD) under spinal anesthesia.<sup>1</sup> We read this article with great interest, however, we would like to raise some concerns.

Our primary concern is the use of vasopressors during the study. A recent international consensus statement on managing hypotension with vasopressors during CD under spinal anesthesia suggested that  $\alpha$ -adrenergic agonist drugs are the most appropriate agents for preventing and treating hypotension following spinal anesthesia. Currently, phenylephrine is recommended due to the volume of supporting data.<sup>2</sup> In this study, however, hypotension (defined as a systolic blood pressure of <90 mmHg) was treated with an intravenous bolus of 3 mg mephentermine. A continuous infusion of mephentermine is equally effective in preventing post-spinal hypotension in women undergoing CD compared with phenylephrine.<sup>3</sup> However, little is known about the efficacy of an intravenous mephentermine bolus. Additionally, mephentermine has limited information available regarding placental transfer and fetal metabolic effects.<sup>4</sup> Therefore, we suggest that hypotension should be treated with an intravenous phenylephrine bolus.

Our second concern is the possibility of measurement bias for the primary outcome, the incidence of shivering. Shivering was graded using a four-point scale proposed by Vanderstappen et al.<sup>5</sup> A limitation of this scale is the assessor's subjectivity. Therefore, evaluators should be blinded to group allocation (in this case, phenylephrine vs. saline control) to reduce the risk of measurement bias. In a previous study, the bedside shivering assessment scale (BSAS) had adequate inter-rater reliability.<sup>6</sup> Therefore, we recommend use of this scale if more than one evaluator is involved. Further, an integrated method combining the BSAS with oxygen uptake, electromyography, and myophonography has been proposed.<sup>7</sup>

In conclusion, these concerns highlight possible misinterpretations of the findings in the study.

## References

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