Journal of Anesthesia (2019) 33:704
https://doi.org/10.1007/s00540-019-02685-7

LETTER TO THE EDITOR

Obesity and spinal anesthesia outcomes

Sun-Kyung Park[1] · **Hyun-Kyu Yoon**[1] · **Won Ho Kim**[1]

Received: 7 July 2019 / Accepted: 16 September 2019 / Published online: 23 September 2019

To the Editor:

With interest, we read the study by Lamon et al. [1], which retrospectively analyzed a large cohort of parturients undergoing cesarean delivery. The found that the parturients with ≥ 50 kg/m^2 were associated with a greater risk of high spinal block. Due to the retrospective design and analysis of only high block, this study could not answer whether the bupivacaine dose should be reduced. A prospective dose–response study compared the median effective dose (ED50) for successful anesthesia between obese (BMI ≥ 27.5 kg/m^2) and non-obese patients undergoing total knee arthroplasty but found no difference [2]. However, another prospective observational study found that obesity (BMI ≥ 30 kg/m^2) was a significant predictor of successful anesthesia by logistic regression analysis [3]. Furthermore, time to first report of postoperative pain and time to first self-void were significantly prolonged in obese patients, suggesting a prolonged recovery in obese patients. These results suggest that obesity influences the spinal anesthesia outcomes differently depending on the statistical analysis technique and different outcomes. Therefore, the dose of bupivacaine should be determined not only by ED50 or high spinal block, but also by recovery profile.

Compliance with ethical standards

Conflict of interest The authors declares that they have no conflict of interest.

References

1. 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.
2. Kim WH, Lee JH, Ko JS, Ahn HJ, Park SK, Gwak MS, Kim GS. The effect of body mass index on spinal anaesthesia for total knee replacement arthroplasty: a dose-response study. Anaesth Intensive Care. 2012;40:410–6.
3. Kim HJ, Kim WH, Lim HW, Kim JA, Kim DK, Shin BS, Sim WS, Hahm TS, Kim CS, Lee SM. Obesity is independently associated with spinal anesthesia outcomes: a prospective observational study. PLoS One. 2015;10:e0124264.

This comment refers to the article available online at https://doi.org/10.1007/s00540-017-2352-0.

✉ Won Ho Kim
wonhokim.ane@gmail.com

[1] Department of Anesthesiology and Pain Medicine, Seoul National University Hospital, Seoul National University College of Medicine, 101, Daehak-ro, Jongno-gu, Seoul 03080, South Korea