International Journal of Surgery 72 (2019) 249

Contents lists available at ScienceDirect

International Journal of Surgery

journal homepage: www.elsevier.com/locate/ijsu

A reply letter to: "A commentary on "continuous adductor canal block is a better choice compared to single shot after primary total knee arthroplasty: A meta-analysis of randomized controlled trials" (Int J Surg 2019 Oct 12. pii: S1743-9191(19)30277–8. doi: 10.1016/j.ijsu.2019.10.012. [Epub ahead of print] "

Thank you for the comments on our manuscript entitled "Continuous adductor canal block is a better choice compared to single shot after primary total knee arthroplasty: A meta-analysis of randomized controlled trials", which was published in the International Journal of Surgery [1].

Total knee replacement (TKR) is one of the most common surgeries performed to relieve knee pain in patients with end-stage osteoarthritis (OA) or rheumatic arthritis (RA) of the knee. However, TKR is often followed by moderate to severe postoperative pain that can affect postoperative rehabilitation, patient satisfaction, and quality of life. Despite its beneficial long-term effects, the surgical procedure is commonly associated with persistent early postoperative pain, and effective analgesia is important. Patients are usually elderly with comorbid disorders and it is crucial to introduce an anesthetic and analgesic regimen that could decrease adverse effects as well as providing satisfactory pain relief.

In recent years, continuous femoral nerve block (FNB) has been recommended as a clinical analgesic treatment after TKA. However, continuous blockade of the femoral nerve may result in weakness of quadriceps muscle which increases the risk of falls during early rehabilitation [2]. Adductor canal block (ACB) has emerged as an alternative to FNB, with the advantage of sparing the motor nerve supply to most of the quadriceps muscle and thus may lead to a reduction in falls after surgery [3]. However, the optimal duration to maintain ACB is unknown. Some hospitals use a single shot ACB (SACB), while others use a continuous block through an epidural catheter and infusion (CACB) after surgery. The advantages of continuous infusion over a single injection are debatable. Thus, we performed this meta-analysis of randomized controlled trials (RCTs) and indicated that compared with SACB, CACB provides better analgesia after TKR. Therefore, CACB is recommended as an analgesic method for early postoperative pain treatment after TKR.

We write this correspondence in response to the Letter to the Editor concerning our article. All comments are very important and helpful to improve our paper. Our point-by- point responses to these comments are: (1) In our study, all continuous outcomes were assessed by weighted mean difference because pain score was assessed by the different scales. (2) We evaluated the evidence based level according to the following four aspects: limitation, inconsistency, indirectness, imprecision. We classify them into high, moderate, low and very low by the GRADE quality assessment. (3) The composition of ACB in the eight RCTs showed a huge difference. Due to the limited number of the included studies, we did not perform a subgroup analysis regarding the composition of ACB, and the duration of follow-up was short. Further future large comparative studies are required.

Provenance and peer review

Not Commissioned, internally reviewed.

Declaration of competing interest

The authors declare that they have no competing interests.

References

[1] C. Wang, Z. Chen, X. Ma, Continuous adductor canal block is a better choice compared to single shot after primary total knee arthroplasty: a meta-analysis of randomized controlled trials, Int. J. Surg. 72 (2019) 16–24.

[2] J.E. Paul, A. Arya, L. Hurlburt, J. Cheng, L. Thabane, A. Tidy, Y. Murthy, Femoral nerve block improves analgesia outcomes after total knee arthroplasty: a meta-analysis of randomized controlled trials, Anesthesiology 113 (5) (2010) 1144–1162.

[3] N.M. Elkassabany, S. Antosh, M. Ahmed, C. Nelson, C. Israelite, I. Badiola, L.F. Cai, R. Williams, C. Hughes, E.R. Mariano, et al., The risk of falls after total knee arthroplasty with the use of a femoral nerve block versus an adductor canal block: a double-blinded randomized controlled study, Anesth. Analg. 122 (5) (2016) 1696–1703.

Jie Zhao, Zhenming Kang*

Department of Anesthesiology, Quanzhou First Hospital Affiliated to Fujian Medical University, Quanzhou, 362000, China

E-mail address: kzm991041@163.com (Z. Kang).

DOI of original articles: https://doi.org/10.1016/j.ijsu.2019.10.012, http://dx.doi.org/10.1016/j.ijsu.2019.10.054

* Corresponding author.

https://doi.org/10.1016/j.ijsu.2019.11.009

Received 11 November 2019; Accepted 13 November 2019

Available online 19 November 2019