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Invited Commentary

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])

Total knee replacement (TKR) is the standard surgical procedure performed globally for patients with end-stage osteoarthritis (OA) or rheumatoid arthritis (RA) [1]. However, patients experience moderate to severe pain after TKR. Traditionally, postoperative analgesia following total joint replacement is provided by either intravenous patient controlled analgesia (PCA) or epidural analgesia. Each of these techniques has its own distinct advantages and disadvantages. Several adverse effects are associated with PCA include dizzy, nausea, vomiting, orthostatic hypotension, and respiratory depression. Epidural analgesia may cause cardiovascular disorder and total spinal anesthesia. Failure to provide adequate analgesia impedes aggressive physiotherapy and rehabilitation, which are critical to maintain good range of joint motion, and potentially delay hospital discharge with increased risks of thromboembolism [2]. In recent years, continuous femoral nerve block (FNB) has been recommended as a clinical analgesic method after TKR. However, continuous blockade of femoral nerve may result in weakness of quadriceps muscle strength and increases the risk of falling during early ambulation. 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. Currently, the efficacy and safety of ACB in TKR remain controversial due to availability of published studies with small sample sizes and low quality.

We read with great interest the article 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" by Xinlong Ma et al. [3] published in the International Journal of Surgery.

The aim of this study was to investigate which ACB method provides better pain relief after TKR. Eight RCTs with a total of 642 patients were included. The overall evidence for outcomes was moderate. The pooled data indicated that the use of continuous ACB after TKR surgery was associated with a lower pain score at rest or movement, less cumulative morphine consumption, and shorten length of hospital stay compared with single ACB, with no significant differences in nausea or vomiting rates. They concluded that continuous ACB provides better analgesia after TKR. Therefore, continuous ACB is recommended as an analgesic method for early postoperative pain treatment after TKR. We have some concerns on the manuscript. First, we can see that all continuous outcomes were assessed by weighted mean difference. Why not choose standard mean difference? Second, about the GRADE quality assessment, you should give the reason whether to downgrade or not, for example, is optimal information size considered for imprecision? Third, the composition of ACB in the eight RCTs showed a huge difference, and the authors pooled the data for analysis. This would affect the accuracy of the results. There is a lack of long-term follow up in the reported study. Further future large comparative studies are required.

Provenance and peer review

Invited Commentary, internally reviewed.

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