Letter to the Editor

Letter to the Editor: Single-injection or Continuous Femoral Nerve Block for Total Knee Arthroplasty?

Kelly Byrne MBChB, FANZCA

To the editor,

I read the study by Albrecht et al. [1] with great interest. The authors should be commended for

(RE: Albrecht E, Morfey D, Chan V, Gandhi R, Koshkin A, Chin KJ, Robinson S, Frascarolo P, Brull R. Single-injection or continuous femoral nerve block for total knee arthroplasty? *Clin Orthop Relat Res*. 2014;472:1384–1393)

The author certifies that he or any member of his immediate family, has no funding or commercial associations (eg, consultancies, stock ownership, equity interest, patent/licensing arrangements, etc) that might pose a conflict of interest in connection with the submitted article.

All ICMJE Conflict of Interest Forms for authors and *Clinical Orthopaedics and Related Research*® editors and board members are on file with the publication and can be viewed on request.

Clinical Orthopaedics and Related Research® neither advocates nor endorses the use of any treatment, drug, or device. Readers are encouraged to always seek additional information, including FDA approval status, of any drug or device before clinical use. Each author certifies that his or her institution approved the human protocol for this investigation, that all investigations were conducted in conformity with ethical principles of research, and that informed consent for participation in the study was obtained.

attempting to answer the complex question of whether there is any benefit of continuous femoral nerve block over a single shot nerve block. Clearly this was one of the major unanswered questions in the meta-analysis from Paul et al. [3].

However, there seem to be several problems with this study. First, their choice of ropivacaine concentrations was odd, given previous work by Brodner et al. [2] who showed 0.1% ropivacaine to be ineffective when used as a continuous infusion for femoral nerve blockade. Was this overlooked, or were Albrecht et al [1] certain that with ultrasound guidance for placement of catheters their accuracy was such that they could use 0.1% ropivacaine successfully?

Second, it seems unusual that their patient cohort had such high pain scores

despite what seems like an exceptional analgesic regimen. Certainly, the pain scores reported were different (roughly two points higher, a clinically significant difference) than a group of patients with a very similar analgesic regimen in a study by Spangehl et al. [6]. This, combined with the lack of ability to show any difference in quadriceps strength between the three groups, calls into question the success of the continuous femoral nerve block. Certainly, a difference in quadriceps strength has been an important finding of those studies looking at differences between adductor canal and femoral nerve blocks [4, 5].

While the tide may be turning against continuous femoral nerve blockade following TKA, we must be careful with the evidence we base this on.

References

1. Albrecht E, Morfey D, Chan V, Gandhi R, Koshkin A, Chin KJ, Robinson S, Frascarolo P, Brull R. Single-injection or Continuous Femoral Nerve Block for Total Knee Arthroplasty? *Clin Orthop Relat Res*. 2014;472:1384–1393.

K. Byrne MBChB, FANZCA (✉)
Department of Anaesthesia,
Waikato Hospital, Pembroke Street,
Hamilton, New Zealand
e-mail: Kelly.Byrne@waikatodhb.health.nz;
kpa.byrne@gmail.com

Letter to the Editor

2. Brodner G, Buerkle H, Van AH, Lambert R, Schweppe-Hartenauer ML, Wempe C, Gogarten W. Postoperative analgesia after knee surgery: a comparison of three different concentrations of ropivacaine for continuous femoral nerve blockade. *Anesth Analg.* 2007;105:256–262.
3. Paul JE, Arya A, Hurlburt L, Cheng J, Thabane L, Tidy A, Murthy Y. Femoral nerve block improves analgesia outcomes after total knee arthroplasty: a meta-analysis of randomized controlled trials. *Anesthesiology.* 2010;113:1144–1162.
4. Kim DH, Lin Y, Goytizolo EA, Kahn RL, Maalouf DB, Manohar A, Patt ML, Goon AK, Lee YY, Ma Y, Yadeau JT. Adductor canal block versus femoral nerve block for total knee arthroplasty: a prospective, randomized, controlled trial. *Anesthesiology.* 2014;120:540–550.
5. Kwofie MK, Shastri UD, Gadsden JC, Sinha SK, Abrams JH, Xu D, Salviz EA. The effects of ultrasound-guided adductor canal block versus femoral nerve block on quadriceps strength and fall risk: a blinded, randomized trial of volunteers. *Reg Anesth Pain Med.* 2013;38:321–325.
6. Spangehl MJ, Clarke HD, Hentz JG, Misra L, Blocher JL, Seamans DP. The Chitranjan Ranawat Award: Periarticular Injections and Femoral & Sciatic Blocks Provide Similar Pain Relief After TKA: A Randomized Clinical Trial. [Published online ahead of print April 5, 2014]. *Clin Orthop Relat Res.* DOI: [10.1007/s11999-014-3603-0](https://doi.org/10.1007/s11999-014-3603-0).