

Antiinflammatory Effect of Peripheral Nerve Blockade

To the Editor:—We read with interest Martin *et al.*'s¹ study on the antiinflammatory effect of peripheral nerve block after total knee arthroplasty. We would be delighted to see such an outcome; however, we wish to raise the following questions on the conclusion drawn that peripheral nerve blocks have a clinical antiinflammatory effect, especially when there was no change in inflammatory mediator levels. This study's primary outcome measure was IL-6 at 24 hours. Statistically it was powered to demonstrate a 50% reduction in IL-6 at 24 hours, with 20 patients per treatment arm. This study was not powered to demonstrate the clinical outcome measures for inflammation—knee circumference and temperature. Therefore we cannot draw any definitive conclusions regarding peripheral nerve blocks and any potential anti-inflammatory effects until further work is done. Second, the absence of sham blocks here can lead to observer bias. Third, the use of 20 ml of 0.75% Ropivacaine for each femoral and sciatic nerve block could have contributed towards reduced temperature and edema, given that studies have shown that Ropivacaine's vasoactive properties cause a reduction in blood flow.^{2,3} Lastly, and most importantly, the reduced circumference and temperature seen may merely be the result of improved pain control and mobility. The conclusions drawn were based only on findings from postoperative days 1 to 7, with no significant differences seen between groups at a later follow-up.

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In Reply:—We read with interest the letter by O'Donnell on our study on the antiinflammatory effect of peripheral nerve block after total knee arthroplasty.¹ We clearly stated that the mechanisms underlying the observed antiedematous effect of peripheral nerve block is unknown. We agree that this study was powered to demonstrate a 50% reduction in IL-6 24 h after surgery and not the clinical criteria as its primary outcome. We clearly identified in our discussion the absence of sham as a limitation. The putative vasoconstriction as a result of ropivacaine has been in fact demonstrated for terminal vessels, which is not the case in our study. We already discussed in our manuscript the impact of increased mobility on inflammation. We agree that mobility might have influenced edema, but associated reduced temperature suggests an antiinflammatory effect. We never suggested that this observed antiedematous effect of peripheral nerve

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Multiplane Reconstruction Is Better Than Plain X-ray to Measure the Tracheobronchial Tree

To the Editor:—Hagihira *et al.*¹ reported the usefulness of a new double-lumen endobronchial tube specially designed for patients with a short right mainstem bronchus. Using x-ray data, they outlined that Japanese patients have, on average, a shorter right mainstem bronchus than American patients. We would caution against such x-ray measurements because of the spatial orientation of the main bronchi. This is particularly important when the left mainstem bronchus diameter is measured to choose an appropriate double-lumen tube. As the left mainstem bronchus is oblique through the horizontal plane, it is necessary to perform a multiplane reconstruction of the tracheobronchial tree using transverse, sagittal, and coronal tomodensitometric slices to obtain a strictly orthogonal slice of the left mainstem bronchus.² Such precautions are mandatory to prevent mismeasurement.

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We therefore feel that further investigation is required before concluding that peripheral nerve blocks reduce clinical or biochemical inflammation, and if it does so, whether it actually translates into long-term patient benefit.

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References

1. Martin F, Martinez V, Mazoit JX, Bouhassira D, Cherif K, Gentili ME, Piriou P, Chauvin M, Fletcher D: Antiinflammatory effect of peripheral nerve blocks after knee surgery. *ANESTHESIOLOGY* 2008; 109:484-90
2. Burke D, Joypaul V, Thomson MF: Circumcision supplemented by dorsal penile nerve block with 0.75% ropivacaine: A complication. *Reg Anesth Pain Med* 2000; 25:424-7
3. Wienzek H, Freise H, Giesler I, Van Aken HK, Sielenkaemper AW: Altered blood flow in terminal vessels after local application of ropivacaine and prilocaine. *Reg Anesth Pain Med* 2007; 32:233-9

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block might translate into long-term patient benefit, but we still think that it probably contributes to the observed improvement in functional recovery.

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Reference

1. Martin F, Martinez V, Mazoit JX, Bouhassira D, Cherif K, Gentili ME, Piriou P, Chauvin M, Fletcher D: Antiinflammatory effect of peripheral nerve blocks after knee surgery: Clinical and biologic evaluation. *ANESTHESIOLOGY* 2008; 109:484-90

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References

1. Hagihira S, Takashina M, Mashimo T: Application of a newly designed right-sided, double-lumen endobronchial tube in patients with a very short right mainstem bronchus. *ANESTHESIOLOGY* 2008; 109:565-8
2. Olivier P, Hayon-Sonsino D, Convard JP, Laloë PA, Fischler M: Measurement of left mainstem bronchus using multiplane CT reconstructions and relationship between patient characteristics or tracheal diameters and left bronchial diameters. *Chest* 2006; 130:101-7

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