Adding dexamethasone to peripheral nerve blocks can give better postoperative analgesia

Editor—We read with great interest the manuscript entitled ‘Effect of dexamethasone on the duration of interscalene nerve blocks with ropivacaine or bupivacaine’.1 We congratulate the authors on their study. Long-lasting peripheral nerve blocks using single-shot injections result in a simpler and more cost-effective alternative to prolong postoperative analgesia, compared with continuous infusions of local anaesthetics through perineural catheters. However, we would like to make some comments on their findings and conclusions. This study concludes that adding dexamethasone to the local anaesthetic solution administered through an interscalene block significantly prolonged the analgesic effect of the local anaesthetics used on this block. They used a verbal response score to assess the quality of analgesia, and the time to request the first dose of rescue analgesics as the primary outcome. In their discussion, however, the authors established an equivalency between their primary outcome and duration of a peripheral nerve block. This assumption may not be correct for two main reasons: first, the effect of perineural dexamethasone in block duration is not established. Secondly, assuming equivalence between pain control and peripheral nerve block duration does not take into account any systemic analgesic effect of dexamethasone. Although the authors mentioned this possibility, we do not know whether adding dexamethasone prolongs analgesia because of a prolonged nerve block, or through a systemic analgesic effect. Although absorption data from perineural injections of dexamethasone are lacking, epidural administration of the drug results in clinically relevant effects even after single injection.2 The analgesic effect of perioperative dexamethasone has been the subject of a recent meta-analysis.3 Are these concerns relevant? Dexamethasone, like other adjuvants, has been challenged in terms of its safety by some authors.4 It does not have approval by regulatory authorities like the FDA for using via perineural, and it has been the subject of editorials in pain medicine and anaesthesia journals asking for pre-clinical evidence of safety before continuing the use in patients.5 6 If systemic dexamethasone has similar effects on analgesia as perineural injection, it would be advisable to use it through the safest route of administration. In conclusion, for interscalene nerve blocks, adding dexamethasone to local anaesthetic solution provides analgesia lasting longer than control groups. Whether this effect has been caused by a regional effect or a systemic effect is a question that this study design cannot answer properly.

Declaration of interest

None declared.

Reply from the authors

Editor—I am pleased to respond to the thoughtful letter by Drs De la Fuente and Altermatt in response to our study.1 As they rightly point out, the exact mechanisms underlying dexamethasone’s analgesic effect are unknown. They also rightly point out that systemic administration of the drug

1 James MFM, Michell WL, Joubert IA, Nicol AJ, Navsaria PH, Gillespie RS. Resuscitation with hydroxyethyl starch improves renal function and lactate clearance in penetrating trauma in a randomized controlled study: the FIRST trial (Fluids in Resuscitation of Severe Trauma). Br J Anaesth 2011; 107: 693–702
6 Eisenach J, Shafer S, Yaksh T. The need for a journal policy on intrathecal, epidural, and perineural administration of non-approved drugs. Pain 2010; 149: 417–19

B Braun, and Fresenius-Kabi. W.L.M. has been a Member of Fresenius Kabi Nutrition advisory board meetings and has received travel and accommodation support and an honorarium. I.A.J. has received honoraria and travel support from Fresenius-Kabi. He has also received lecture fees from a variety of companies not related to fluid therapy.

M. F. M. James* W. L. Michell I. A. Joubert A. J. Nicol P. H. Navsaria R. S. Gillespie
Cape Town, South Africa*E-mail: mike.james@uct.ac.za

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