Correspondence

Postoperative epidural analgesia

To the Editor:

The use of "multi-modal or balanced analgesia" to improve postoperative pain relief has received major interest in recent years. However, the optimal composition and dosage regimen for such combinations have not been settled. Therefore, Badner *et al.* should be congratulated for providing additional information in this field, based upon double-blind randomized studies.[1,2]

In a recent study[2] Badner and Komar concluded that additional bupivacaine 0.1%, with an average infusion rate of 7–9 $ml \cdot hr^{-1}$ did not improve analgesia when combined with a continuous epidural fentanyl infusion at about 70–90 $\mu g \cdot hr^{-1}$ in patients undergoing major abdominal or thoracic surgery. However, we would like to dispute their conclusion, since the study has several flaws in its design: (1) in their study Badner and Komar used an epidural catheter inserted between T_{11-12}/L_{4-5} despite the fact that almost all patients had major abdominal or thoracic procedures. Although we will agree that the site of insertion of the catheter may have less, if any, importance regarding epidural opioid administration, it is well established that epidural local anaesthetics have to be administered at or very near the dermatomal level of the surgical incision. Therefore, it is not unexpected that the small additional bupivacaine dose did not improve analgesia. (2) Patients received intraoperative epidural anaesthesia with local anaesthetics at the discretion of the anaesthetists, but no information is given on how many patients or in which group. This is insufficient, since a preemptive epidural blockade may have had influence on postoperative pain, although we do not think such an effect to be major. (3) Finally, in order to detect differences in analgesic potency of various regimens it is insufficient to assess pain only at rest, since differential analgesic effects have been demonstrated by adding a small dose bupivacaine to epidural opioids,[3,4] a difference which only appeared when pain *also* was assessed during function i.e., cough and mobilization.

For these reasons, the negative results of the study by Badner and Komar[2] should not be used as an argument for not using the combination of epidural bupivacaine and opioids. We agree that further studies to clarify the optimal dosage regimens in different operations are required.

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REPLY

We thank Drs. Kehlet and Dahl for their interest in our work.[1,2] From our results we did not intend that one should avoid the addition of bupivacaine with opioids altogether when used for postoperative analgesia, but simply that the 0.1% concentration of bupivacaine is insufficient.

In addressing their specific concerns, though the epidural location was not optimal for all the patients in the abdominal surgery study,[1] the use of lumbar catheters for orthopaedic patients is clearly appropriate,[2] and the same negative conclusion also resulted when using 0.1% bupivacaine. We did not initially report the amounts of intraoperative epidural local anaesthesia used, as preemptive blockade was not recognized at this time; however, 10/15 patients in the fentanyl group and 9/15 patients in the fentanyl/0.1% bupivacaine group received intraoperative local anaesthesia in addition to the initial test dose (NS). Preemptive blockade was therefore not a factor in our findings. Lastly, before Dahl et al.'s work,[3] the standard pain measurement had been to assess pain at rest, which was the method that those recommending the use of 0.1% bupivacaine had utilized.[4,5] In fact, both Dahl et al.'s and Mourisse et al.'s studies[3,6] utilized bupivacaine concentrations in excess of 0.1% which corroborates our recent work where 0.125% bupivacaine led to