

three-in-one block for postoperative pain after lower limb orthopedic surgery: where do the catheters go? *Anesth Analg* 2002; 94: 1001–6.

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- 5 Bouaziz H, Vial F, Jochum D, et al. An evaluation of the cutaneous distribution after obturator nerve block. *Anesth Analg* 2002; 94: 445–9.

Reply:

We thank the editor for giving us the opportunity to reply to the comments of Jutzi et al. Firstly, our results cannot be compared with those of Parkinson who injected local anesthetic via a needle and not via a catheter.¹ Secondly, we threaded the catheters up to 12 cm in order to inject local anesthetic more cephalad to obtain a better block of the obturator nerve. Again, our results are difficult to compare with those of Capdevila² who threaded the catheters up to 16–20 cm. Furthermore, Ritter studied the spread of solution injected via a needle and not via a catheter.³ However, there is a question that remains; are the study's conditions similar in cadavers and in patients undergoing surgery. Concerning radiological control of the catheters, the aim of our study was to explore, in clinical conditions, the effect of different doses of local anesthetic injected via a catheter regardless of the exact position of its tip. However, lack of radiological verification of catheters is well mentioned in the discussion.

We agree that testing of the obturator nerve blockade is a complex problem. As have many others authors,^{2,4-6} we tested sensory obturator block at the medial aspect of the knee. In one of these studies, sensory and motor obturator blocks were tested and the results show that the sensory block is more consistent than the motor one. Recently, Bouaziz reported the lack of cutaneous innervation of the obturator nerve at the knee level in 57% of the subjects.⁷ If these data are confirmed by other investigations, motor rather than the sensory block of the obturator nerve should be tested. Nevertheless, even in the absence of skin fibres, the obturator nerve contributes to sensory innervation of the knee joint. Very low pain scores documented four hours after the block support the finding of a high percentage of obturator block in our patients. Finally, there is perhaps some doubt about the existence of three-in-one block, but this term is currently used in the anesthetic literature.

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Delayed respiratory depression after interscalene blockade for shoulder surgery in geriatric patients

To the Editor:

In our institution, as in many others, surgery on the proximal part of upper arm is usually performed under interscalene brachial plexus block (ISB) with general anesthesia (GA) upon request of the surgeon. We recently experienced three cases of delayed respiratory distress after complete recovery of uneventful anesthesia in geriatric patients who received ISB and GA for surgeries on the upper arm or shoulder. In all cases ISB was performed using a nerve stimulator at first attempt by the Winnie approach.

In the first case, a 74-yr-old female received ISB with a 30 mL mixture containing ropivacaine 112 mg and lidocaine 150 mg with epinephrine, injected slowly in divided doses. Ten minutes later, GA was administered with sufentanil, propofol, sevoflurane and atracurium to facilitate tracheal intubation. At completion