

PD-50. PATIENT CONTROLLED REGIONAL ANESTHESIA AT HOME AFTER MAJOR UPPER AND LOWER LIMB ORTHOPEDIC PROCEDURES.

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Background: Single peripheral nerve blocks have been shown to be effective for immediate postoperative analgesia after orthopedic surgery. Since many patients who undergo postoperative physical therapy require over 24 hours of pain control, preliminary reports suggested that continuous nerve block might also be indicated to facilitate functional recovery(1,2). This study was designed to evaluate the effectiveness of continuous block techniques for postoperative analgesia at home after upper and lower extremity procedures.

Method: With ethical committee approval and informed written consent, 76 patients undergoing shoulder (frozen shoulder, arthroplasty, osteosynthesis of articular fractures, achromioplasty and rotator cuff repair), elbow (artromiolysis, osteosynthesis of articular fractures), or knee surgery (artromiolysis, arthroplasty, osteosynthesis of articular fractures, anterior cruciate ligament repair) received a continuous interscalene, infraclavicular, or femoral nerve block, respectively. All catheters were placed with a sterile technique using an insulated stimulating needle connected to a nerve stimulator, and then secured to the skin with a Lockit pin 18G (SIMS Portex Limited - Hythe, Kent UK). At the time of discharge from the hospital the patient and general practitioner were given clear written instruction on how to use the perineural catheter and refill the elastomeric pump. Patients were also given a telephone number to contact the Acute Pain Service team 24 h a day in case of problems or side effects. Postoperative analgesia at home consisted of a continuous infusion of 0.4% ropivacaine through the perineural catheter at 5 ml/h using an elastomeric pump (Baxter ref C1009). The elastomeric pump was connected to a three way stop cock enabling the patient to open/close the infusion line at request, while analgesia was completed with either ketorolac 30 mg or tramadol 100 mg per os as needed. The degree of pain was assessed daily using a 5 point Verbal Rating Scale by asking the patients to complete a questionnaire until removal of the perineural catheter. The duration of perineural infusion, use of rescue analgesia, and patient satisfaction were also recorded. Data are presented as mean[±]SD

Results: The questionnaire were completed and returned by 46 patients (60%). The duration of continuous nerve block at home was longer after lower (9.6 ± 4 days) than upper limb procedures (7.6 ± 5 days). The table shows the median (range) duration of ropivacaine infusion through the perineural catheter for upper and lower limb surgery. The percentage of patients experiencing no or mild pain increased from 57% on day 1, to 60% Day 2, 69% Day 3; 81% day 4, 82% Day 5 and Day 6, 85% Day 7. Most of the patients removed the catheter by themselves at home, and satisfaction with the analgesia technique was good in 100% of the cases. No paresthesia, neurological damages, or infections were observed in the studied population. Two cases of continuous interscalene block showed hypoesthesia in the cervical-auricular regions. In three cases of continuous femoral block the daily hours of infusion were reduced to prevent motor blockade. In one case the catheter was removed, because the three way stop cock was broken.

Conclusions: Provided that adequate information and written instruction are given both to the patient and his family physician, continuous peripheral nerve block at home represents a safe and effective treatment for prolonged postoperative pain associated with upper and lower extremity rehabilitation. The use of elastomeric pumps with a three way stop cock is easy to understand and allows easy and safe refilling to the patient providing pain relief as long as required.

1. Rawal N, Axelsson K, Hylander J. *Anesth Analg* 1998; 86:86-9

2. Ganapathy S, Amendola A, Lichfield R, et al. *Can J Anaesth* 2000; 47:897-902

Duration of infusion (h)	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Lower Limb surgery	22 (5 - 24)	22 (5 - 24)	17 (0 - 24)	15 (0 - 24)	12 (0 - 24)	10 (0 - 24)	8 (0 - 24)
Upper Limb surgery	19 (6 - 24)	22 (9 - 24)	19 (7 - 24)	10 (0 - 24)	5 (0 - 24)	4 (0 - 24)	4 (0 - 24)