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0.2% ropivacaine and 0.125% levobupivacaine for continuous sciatic nerve block after foot surgery: a pilot study

Casati A, Vinciguerra F, Marchetti C, Manzoni P, Spreafico E, Aldegheri G

Dept of Anesthesiology - IRCCS H San Raffaele, Milan, Italy

Background and aim: Levobupivacaine has been demonstrated to be effective and safe for single shot nerve blocks. However, little is known about its use for continuous nerve blocks. The aim of this prospective, randomized, double-blind study is to compare the analgesia efficacy and motor block resolution of 0.2% ropivacaine, 0.2% levobupivacaine and 0.125% levobupivacaine for continuous sciatic nerve block after foot surgery.

Methods: With ethic committee approval and written consent, continuous sciatic nerve block with the lateral popliteal approach was performed in 30 patients undergoing hallux valgus repair. After an initial bolus of the 0.5% concentration of the study drug, patients were randomly allocated to receive a patient controlled infusion of 0.2% ropivacaine (n = 10), 0.2% levobupivacaine (n = 10) or 0.125% levobupivacaine (n = 10) using a basal infusion of 6 ml/h, a ID of 2 ml with a LO time of 15 min, max 3/h. A blind observer evaluated the onset of the surgical block, the degree of pain (10 cm VAS), and the resolution of sensory and motor blocks, the total anesthetic consumption as well as consumption of rescue tramadol at 8, 16, 24 hours.

Results: No differences in onset time were reported. Postoperative pain relief was excellent in all the 3 groups; the median VAS score during motion is showed in the table. Complete recovery of motor function at 24 hours was observed in 100% of cases with 0.2% ropivacaine, 87.5% of cases with 0.125% levobupivacaine, and only 54.5% in patients receiving 0.2% levobupivacaine (p = 0.058). Median (range) volume infused during 24 hours was 146 (135 – 199) ml with 0.2% ropivacaine, 146 (138 – 174) ml with 0.2% levobupivacaine, and 148 (106 – 152) ml with 0.125% levobupivacaine (p = 0.562).

	0.2 ropi	0.2 levo	0.125 levo
VAS 8	0 (0-4)	0 (0-3)	0 (0-3)
VAS 16	0 (0-6)	0 (0-7)	0 (0-6)
VAS 24	0 (0-9)	0 (0-8)	0 (0-7)

Conclusion: Continuous sciatic nerve block with both 0.2% and 0.125% levobupivacaine provided excellent analgesia after hallux valgus repair. However the 0.2% concentration showed a trend toward a higher degree of motor block than 0.2% ropivacaine and 0.125% levobupivacaine.

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