

## 2003 Spring A23

### Continuous interscalene block: lidocaine versus ropivacaine

Casati A, Spreafico E, Manzoni P, Vinciguerra F, Putzu M, Marchetti C, Cappelleri G  
*Dept. of Anesthesiology - IRCCS H San Affaele, Milano Italy*

**Background and Goal of Study:** This prospective, randomized, double-blinded study compared 1% lidocaine and 0.2% ropivacaine for patient-controlled interscalene analgesia after open shoulder surgery.

**Materials and Methods:** Forty patients undergoing open shoulder surgery received an interscalene brachial plexus block with 30 ml of either 1.5% lidocaine (n = 20) or 0.5% ropivacaine (n = 20), followed by a continuous patient-controlled interscalene analgesia (PCIA) with 1% lidocaine or 0.2% ropivacaine, respectively (infusion 6 ml/h; ID 2 ml; LO 25 min; max 3/h). All patients also received 100 mg ketoprofen iv every 8 h; while 100 mg tramadol iv was available if requested. A blinded observer recorded the quality of analgesia and recovery of motor function during the first 24 h of infusion, as well as total consumption of C.A. and rescue analgesia.

The Mann-Whitney u-test was used to compare continuous variables, while categorical data were analyzed using the chi-square test with the appropriate corrections. Results are presented as median (range) or as number (percentage).

**Results and Discussion:** The onset time of surgical block was shorter in patients receiving 1.5% lidocaine [7.5 (5 – 40) min] than in patients receiving 0.5% ropivacaine [30 (10 – 60)] (p = 0.0005). Postoperative pain intensity was higher with lidocaine than ropivacaine for the first 8 hours of infusion, then no further differences were observed. The ratio between boluses given and asked to the PCIA pump was 0.5 (0.13 – 0.7) with lidocaine and 0.7 (0.4 – 1.0) with ropivacaine (p = 0.005). Rescue IV tramadol was required during the first 24 h of infusion by 16 patients of the Lidocaine group (84%) and 8 patients of the Ropivacaine group (46%) (p = 0.05). At the 16 h and 24 h observation times a larger proportion of patients receiving ropivacaine had complete regression of motor block (70% and 95%) than patients receiving lidocaine (50% and 55%) (p = 0.05 and p = 0.013, respectively).

**Conclusion:** Although 1% lidocaine can be effectively used for patient-controlled interscalene analgesia, 0.2% ropivacaine provides a better preservation of motor function.