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Continuous interscalene brachial plexus block for postoperative pain control at home: a randomized, double-blinded, placebo-controlled study

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This study investigated the efficacy of patient-controlled regional analgesia for outpatients undergoing moderately painful orthopedic surgery of the shoulder. Preoperatively, patients (n=20) received an interscalene nerve block and perineural catheter. Postoperatively, patients were discharged home with both oral opioids and a portable infusion pump delivering either 0.2% ropivacaine or 0.9% saline, determined randomly in a double-blind fashion. Daily endpoints included pain scores, opioid use and side effects, sleep quality, and technique complications. Ropivacaine (n=10) infusion significantly reduced pain compared to saline (n=10) infusion. The average pain at rest (scale: 0-10) on postoperative day 1 (median, 25th-75th percentile) was 4.8 (4.0-5.0) for the saline group, versus 0.0 (0.0-2.0) for the ropivacaine group (P<0.001). Oral opioid use and related side effects were also significantly decreased in the ropivacaine group. On postoperative day 1, median tablet consumption was 8.0 (6.5-9.5) and 0.5 (0.0-1.0) for the saline and ropivacaine groups, respectively (P<0.001). Sleep disturbance scores were nearly three-fold greater on the first postoperative night for patients receiving saline (P=0.013). We conclude that following moderately painful orthopedic surgery of the shoulder, ropivacaine infusion using a portable infusion pump and an interscalene perineural catheter at home decreased pain, opioid use and related side effects, and sleep disturbances.

Figures: The infusion was discontinued after postoperative day two as indicated by the horizontal line. Data are expressed as median (horizontal bar) with 25th-75th (box) and 10th-90th (whiskers) percentiles. For tightly clustered data (e.g., postoperative day 0, ropivacaine group), the median approximated the 10th, 25th, and 75th percentile values. In this case, the median is zero and no box is evident, although the 90th percentile is noted. P<0.05: *, compared to placebo for a given postoperative day.

Figure 1

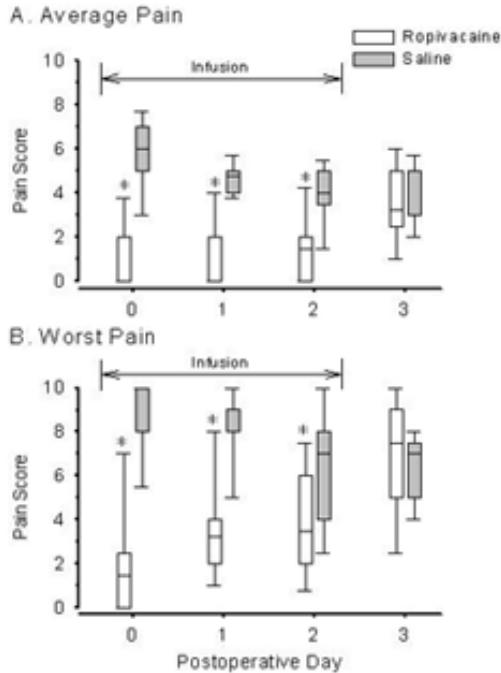


Figure 2

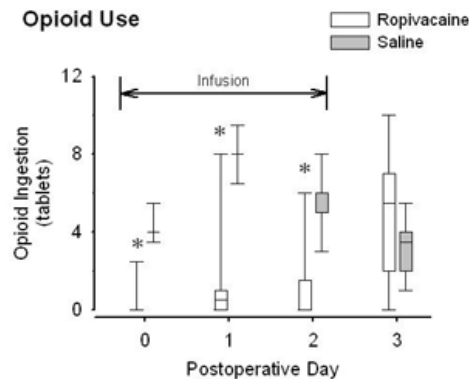
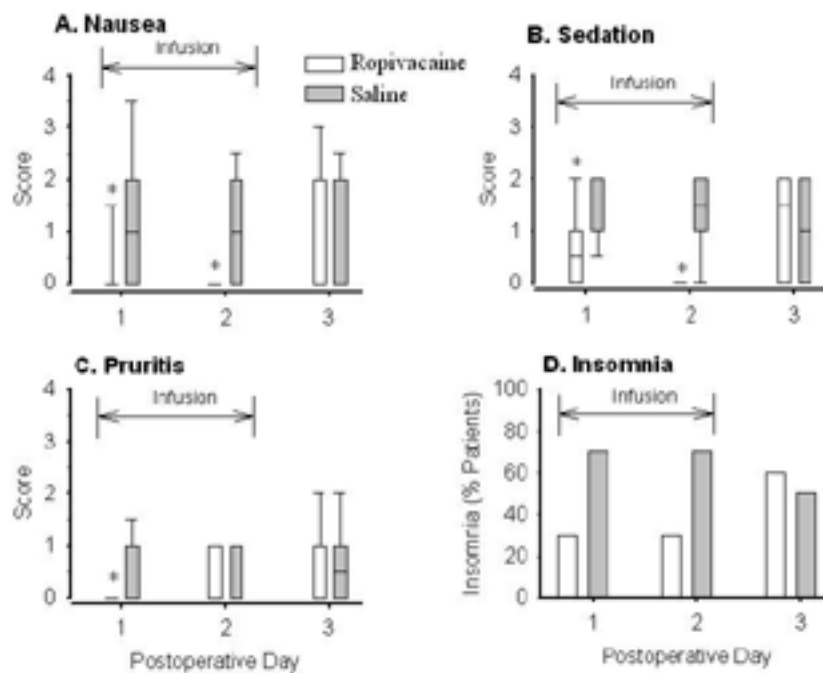


Figure 3



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