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Intraoperative ketamine reduces perioperative opiate consumption in opiate-dependent patients with chronic back pain undergoing back surgery.

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Abstract

BACKGROUND: Ketamine is an N-methyl-d-aspartate receptor antagonist that has been shown to be useful in the reduction of acute postoperative pain and analgesic consumption in a variety of surgical interventions with variable routes of administration. Little is known regarding its efficacy in opiate-dependent patients with a history of chronic pain. We hypothesized that ketamine would reduce postoperative opiate consumption in this patient population.

METHODS: This was a randomized, prospective, double-blinded, and placebo-controlled trial involving opiate-dependent patients undergoing major lumbar spine surgery. Fifty-two patients in the treatment group were administered 0.5 mg/kg intravenous ketamine on induction of anesthesia, and a continuous infusion at 10 microg kg(-1) min(-1) was begun on induction and terminated at wound closure. Fifty patients in the placebo group received saline of equivalent volume. Patients were observed for 48 h postoperatively and followed up at 6 weeks. The primary outcome was 48-h morphine consumption.

RESULTS: Total morphine consumption (morphine equivalents) was significantly reduced in the treatment group 48 h after the procedure. It was also reduced at 24 h and at 6 weeks. The average reported pain intensity was significantly reduced in the postanesthesia care unit and at 6 weeks. The groups had no differences in known ketamine- or opiate-related side effects.

CONCLUSIONS: Intraoperative ketamine reduces opiate consumption in the 48-h postoperative period in opiate-dependent patients with chronic pain. Ketamine may also reduce opioid consumption and pain intensity throughout the postoperative period in this patient population. This benefit is without an increase in side effects.

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