

“This review seeks to exclusively examine the evidence supporting the use of low-dose IV infusion of ketamine for the management of perioperative pain” Jouguelet-Lacoste et al (2014).

Reference:

Jouguelet-Lacoste, J., La Colla, L., Schilling, D. and Chelly, J.E. (2014) The Use of Intravenous Infusion or Single Dose of Low-Dose Ketamine for Postoperative Analgesia: A Review of the Current Literature. Pain Medicine. December 19th. .

Abstract:

**OBJECTIVE:** As an analgesic and N-methyl-D-aspartate receptor antagonist, ketamine has been increasingly used as an adjunct in the management of acute perioperative pain. Although several meta-analyses have examined low-dose intravenous (IV) ketamine, they do not distinguish between different types of infusions. Additionally, the many clinical trials published on ketamine vary by regimen of administration and surgical site. This review seeks to exclusively examine the evidence supporting the use of low-dose IV infusion of ketamine for the management of perioperative pain.

**METHODS:** We searched Medline for any clinical trials or meta-analyses that were conducted on low-dose IV infusion of ketamine between 1966 and November 2013. Using six equations, we were left with 695 references. Of those, five meta-analyses and 39 clinical trials met the criteria to be included our review. These clinical trials represent 2,482 patients, 1,403 of whom received ketamine. We then examined the efficacy of low-dose IV ketamine by regimen and site of surgery using pain scores and opioid consumption as endpoints. Finally, we assessed the safety and long-term impact of low-dose ketamine.

**RESULTS:** Low-dose IV ketamine reduces opioid consumption by 40%. It also lowers pain scores, but these findings are less clear. No major complications have been reported with low-dose IV infusion of ketamine when given up to 48 hours after surgery. While our review lends support to using low-dose IV infusion of ketamine in the management of perioperative pain, its optimal dose and regimen remain to be determined.

**CONCLUSIONS:** Thirty-nine clinical trials assessed a continuous infusion or a bolus of low-dose ketamine for postoperative analgesia using reduction of pain scores or reduction of the opioid consumption as the primary endpoint. The mean reduction of opioid consumption when using low-dose IV infusion ketamine (infusion rate less than 1.2 mg/kg/h) is 40%. Ketamine also reduces pain scores, but the amplitude of the effect is less clear. No major complications have been reported with low-dose IV infusion of ketamine up to 48 hours following surgery.

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Intravenous infusion or single dose of Ketamine for postoperative analgesia | 2