Perioperative ketamine for acute postoperative pain (Review)

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This is a reprint of a Cochrane review, prepared and maintained by The Cochrane Collaboration and published in The Cochrane Library 2010, Issue 11

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Perioperative ketamine for acute postoperative pain

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Editorial group: Cochrane Pain, Palliative and Supportive Care Group.

Publication status and date: Edited (no change to conclusions), published in Issue 11, 2010.

Review content assessed as up-to-date: 16 October 2005.

Citation: Bell RF, Dahl JB, Moore RA, Kalso EA. Perioperative ketamine for acute postoperative pain. Cochrane Database of Systematic Reviews 2006, Issue 1. Art. No.: CD004603. DOI: 10.1002/14651858.CD004603.pub2.

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A B S T R A C T

Background
Postoperative pain management is often limited by adverse effects such as nausea and vomiting. Adjuvant treatment with an inexpensive opioid-sparing drug such as ketamine may be of value in giving better analgesia with fewer adverse effects.

Objectives
To evaluate the effectiveness and tolerability of ketamine administered perioperatively in the treatment of acute postoperative pain in adults.

Search methods
Studies were identified from MEDLINE (1966 to 2004), EMBASE (1980 to 2004), the Cochrane Database of Systematic Reviews (2004) and by handsearching reference lists from review articles and trials. The manufacturer of ketamine (Pfizer) provided search results from their in-house database, PARDLARS.

Selection criteria
Randomised controlled trials (RCTs) of adult patients undergoing surgery, being treated with perioperative ketamine or placebo. Studies where ketamine was administered in addition to a basic analgesic (such as morphine or NSAID) in one study group, and compared with a group receiving the same basic analgesic (but without ketamine) in another group, were also included.

Data collection and analysis
Two independent review authors identified fifty five RCTs for potential inclusion. Quality and validity assessment was performed by two independent review authors. In the case of discrepancy, a third review author was consulted. Patient reported pain intensity and pain relief was assessed using visual analogue scales or verbal rating scales and adverse effects data were collated.

Main results
Thirty-seven trials were included (2240 participants). Eighteen trials were excluded. Twenty-seven of the 37 trials found that perioperative subanaesthetic doses of ketamine reduced rescue analgesic requirements or pain intensity, or both. Quantitative analysis showed that treatment with ketamine reduced 24 hour PCA morphine consumption and postoperative nausea or vomiting (PONV). Adverse effects were mild or absent.
Authors’ conclusions
Ketamine in subanaesthetic dose (that is a dose which is below that required to produce anaesthesia) is effective in reducing morphine requirements in the first 24 hours after surgery. Ketamine also reduces postoperative nausea and vomiting. Adverse effects are mild or absent.

PLAIN LANGUAGE SUMMARY
Perioperative ketamine for acute postoperative pain
Perioperative ketamine in subanaesthetic dose reduces postoperative morphine requirements and reduces postoperative nausea or vomiting (PONV). Adverse effects for perioperative ketamine are mild or absent. The current data cannot be translated into a specific treatment regime.