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Patient controlled opioid analgesia versus conventional opioid analgesia for postoperative pain

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ABSTRACT

Background

Patients may control postoperative pain by self-administration of intravenous opioids using devices designed for this purpose (patient controlled analgesia or PCA). A 1992 meta-analysis by Ballantyne found a strong patient preference for PCA over conventional analgesia but disclosed no differences in analgesic consumption or length of postoperative hospital stay. Although Ballantyne’s meta-analysis found that PCA did have a small but statistically significant benefit upon pain intensity, Walden’s review in 2001 did not find a significant differences in pain intensity and pain relief between PCA and conventionally treated groups.

Objectives

To evaluate the efficacy of PCA versus conventional analgesia (such as a nurse administering an analgesic upon a patient’s request) for postoperative pain control.

Search methods

Randomized controlled trials (RCTs) were identified from the Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library 2004, Issue 3), MEDLINE (1966 to 2004), and EMBASE (1994 to 2004). Additional reports were identified from the reference lists of retrieved papers.

Selection criteria

RCTs of PCA versus conventional analgesia that employed pain intensity as a primary or secondary outcome were selected. These trials included RCTs that compared PCA without a continuous background infusion versus conventional parenteral analgesic regimens. Studies that explicitly stated they involved patients with chronic pain were excluded.
Data collection and analysis

Trials were scored using the Oxford Quality Scale. Meta-analyses were performed of outcomes that included analgesic efficacy assessed by a Visual Analog Scale (VAS), analgesic consumption, patient satisfaction, length of stay and adverse effects. A sufficient number of the retrieved trials reported these parameters to permit meta-analyses.

Main results

Fifty-five studies with 2023 patients receiving PCA and 1838 patients assigned to a control group met inclusion criteria. PCA provided better pain control and greater patient satisfaction than conventional parenteral ‘as-needed’ analgesia. Patients using PCA consumed higher amounts of opioids than the controls and had a higher incidence of pruritus (itching) but had a similar incidence of other adverse effects. There was no difference in the length of hospital stay.

Authors’ conclusions

This review provides evidence that PCA is an efficacious alternative to conventional systemic analgesia for postoperative pain control.

PLAIN LANGUAGE SUMMARY

Patient controlled opioid analgesia versus conventional opioid analgesia for controlling postoperative pain

Patients may control postoperative pain by self-administration of intravenous opioids using devices designed for this purpose (patient controlled analgesia or PCA). Postoperative PCA involves self-administration of small doses of opioids (such as morphine) intravenously by means of a programmable pump designed for this purpose. Previous studies have shown that often patients prefer PCA to traditional methods of pain management, such as a nurse administering an analgesic upon a patient’s request. This review demonstrated that PCA provided slightly better pain control and increased patient satisfaction when compared with conventional methods. Patients tended to use higher doses of medication with PCA and suffered a higher occurrence of itching, but otherwise adverse effects were similar between groups.