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**EVALUATION OF THE EFFECTS OF ADDING KETAMINE TO MORPHINE IN PCA  
AFTER ORTHOPEDIC SURGERY**

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**Background:**

Intravenous patient-controlled analgesia (PCA) with morphine is commonly used for postoperative analgesia after major surgery. Opioids, however, frequently cause side effects such as nausea and heavy sedation. Several adjuvant drugs are opioid sparing and/or improve analgesic efficacy. Ketamine has analgesic properties at smaller doses, and has enjoyed a resurgence of interest.

This clinical trial was designed to determine if the addition of ketamine to morphine for PCA results in subjectively increased analgesic efficacy and lower pain scores compared with morphine PCA alone after orthopedic surgery.

**Methods:**

After giving written, informed consent, 60 patients were randomly allocated to receive PCA consisting:

Group 1 (morphine 0.2 mg/ml)

Group 2 (morphine 0.2 mg/ml + ketamine 1mg/ml)

Group 3 (morphine 0.1mg/ml + ketamine 2 mg/ml)

Patients were ASA physical status I–II, aged 20–60 anesthesiologists managed stud subjects and patients had orthopedic surgery. Assessments were made at 24 and 48 h postoperatively. Pain scores (VAS) were recorded. PCA morphine use was recorded at 24 and 48h. VAS scores over 48 h were analyzed with analysis of variance for repeated measures. Significance level was taken as 0.05.

**Results:**

A small-dose ketamine infusion was a useful adjunct to a morphine infusion after orthopedic surgery, as patients reported significantly better opinions of their analgesic medicine at 48 h and were less sedated.

**Key words:** PCA, Morphine, ketamine.