Intrathecal Dexmedetomidine, Ketamine, and their Combination Added to Bupivacaine for Postoperative Analgesia in Major Abdominal Cancer Surgery

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Abstract:

Intrathecal ketamine has been studied extensively in animals, but rarely in humans. Intrathecal dexmedetomidine prolongs the duration of spinal anesthesia. Objective: To investigate the efficacy and safety of intrathecal dexmedetomidine, ketamine, or both when added to bupivacaine for postoperative analgesia in major abdominal cancer surgery. Design: Double-blinded, randomized, controlled trial. Setting: Academic medical center. Methods: Ninety patients were randomly allocated to receive either intrathecal 10 mg of hyperbaric bupivacaine 0.5% and 5 μg of dexmedetomidine (group I, n = 30), 10 mg of hyperbaric bupivacaine 0.5% and 0.1 mg/kg ketamine (group II, n = 30), or 10 mg of hyperbaric bupivacaine 0.5% and 5 μg of dexmedetomidine plus 0.1 mg/kg of ketamine (group III, n = 30). Hemodynamics, pain score, time to first request of analgesia, total PCA morphine consumption, sedation score, and adverse effects in the first 24 hours postoperatively were recorded. Results: Time to first request of analgesia was longer in group II (7.42 ± 1.43 h) and group III (13.00 ± 7.31h) compared to group I (3.50 ± 1.57 h). PCA morphine consumption was less in group III (6.67 ± 2.8 mg) compared to group I (9.16 ± 3.63 mg) and group II (8.66 ± 3.49 mg). Group III showed lower postoperative pain scores, and a higher incidence of postoperative sedation.

Keywords:

Intrathecal, ketamine, dexmedetomidine, lower abdominal cancer surgery

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