

A Comparative Study - Efficacy and safety of combined spinal epidural anesthesia versus spinal anesthesia in high - risk geriatric patients for surgeries around the hip joint

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AIM

The aim of this study was to compare the clinical results of combined spinal epidural anesthesia (CSEA) versus spinal anesthesia alone, in geriatric patients at high-risk, planned for elective surgeries around the hip joint.

METHODOLOGY

The study was prospective and randomized, and conducted between July 2013 and June 2014. The sample size was 60 and all patients were aged >65 years, with the American Society of Anaesthesiology (ASA) Grade III and IV. There was random allocation into two equal groups. Group A (n = 30) received CSEA with 1 mL (5 mg) of 0.5% hyperbaric bupivacaine, with 25 µg fentanyl through the spinal route. In case of an incomplete spinal block, a small incremental dose of 0.5% isobaric bupivacaine was injected through the epidural catheter. The dose was 1–1.5 mL for every unblocked segment until T10 sensory level was achieved. Group B (n = 30) received spinal anesthesia with 2.5 mL (12.5 mg) of 0.5% hyperbaric bupivacaine and 25 µg fentanyl.

RESULTS

In Group A, the highest level of sensory block achieved was T10, while it was T6 in Group B. All patients in both groups, achieved the maximum degree of motor block (modified Bromage scale 3). Although the onset of sensory block was rapid in both groups, the duration could be prolonged in Group A (CSEA) using the epidural drug. However, prolongation could not be provided in Group B of spinal anesthesia patients. The incidences of hypotension and bradycardia in Group A were much less compared to Group B, with a statistically significant difference. The number of patients who required vasoconstrictors to maintain systolic arterial blood pressure at 100 mmHg, was also much lower in Group A compared to Group B. In high-risk geriatric patients it is desirable that the onset of sympathetic block is gradual to reduce the risk of hemodynamic changes. This study shows that CSEA technique is not only effective and safe, but also maintains hemodynamic stability in geriatric patients undergoing major surgeries involving the hip joint. In addition, CSEA has the added benefit of prolonging analgesia with low dose intrathecal local anesthetic, as compared to spinal anesthesia.

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