

## **Dexmedetomidine-As an Adjuvant to to Epidural Analgesia: Comparison Between Different Doses**

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### **Abstract:**

#### Background:

Epidural analgesia offers superior pain relief and early mobilization, especially when a local anesthetic [LA] dose is combined with an adjuvant vs. a LA alone. Our study compares the efficiency of

dexmedetomidine (1 and 2  $\mu\text{g}/\text{kg}$ ) and levobupivacaine, as well as their respective side effects. Patients and methods: This study was conducted on a total of 60 American Society of Anesthesiologists I-II patients who underwent lower limb operations. The patients that received epidural dexmedetomidine (1  $\mu\text{g}/\text{kg}$ ) plus levobupivacaine were assigned to Group 1 and those that received 2  $\mu\text{g}/\text{kg}$  dexmedetomidine plus levobupivacaine to Group 2. Results: Increasing dexmedetomidine dose caused a significant shortening in the onset time of sensory block,

time needed for maximum sensory level ( $p=0.038$ ,  $0.016$  respectively) and prolonged duration of anesthesia ( $p=0.022$ ). Postoperatively, a significant decrease in the total dose of levobupivacaine used was observed in Group 2 ( $p=0.027$ ). In addition, Patients in Group 2 experienced a higher level of sedation ( $p=0.025$ ) and a better analgesia as observed from time to first top-up dose ( $p=0.019$ ). However, Bradycardia and hypotension were more pronounced in Group 2 patients ( $p<0.05$ ).

#### Conclusion:

Dexmedetomidine 2  $\mu\text{g}/\text{kg}$  as an adjuvant to epidural analgesia prolonged the duration of anesthesia and postoperative analgesia. However, higher doses of epidural dexmedetomidine are cautiously recommended in long surgical operations to avoid its side effects

**Keywords:** Local anesthetics; Dexmedetomidine; Epidural anesthesia

