

THESIS ABSTRACT

AIM: To study the synergistic effect of adding dexmedetomidine to ropivacaine 0.75% in epidural anaesthesia for lower limb surgeries, regarding Onset and duration of sensory blockade, Onset and duration of motor blockade, Haemodynamic changes, Maximum dermatomal level of analgesia, Intensity of motor blockade, Sedation, Any adverse effects. **Settings and design:** A prospective, randomized study was conducted in our Government Rajaji Hospital Madurai. **MATERIAL AND METHODS:** The study population was randomly divided into two groups with 50 patients in each group Group-R- 15ml of 0.75% ropivacaine and Group- RD- 15ml of 0.75% ropivacaine+ 0.6µg/kg of dexmedetomidine. Assessment of sensory and motor blockade were done at the end of each minute with the patient in supine position after completion of the injection of 15 ml of the study drug, which is taken as the starting time. The onset time and the maximum level of sensory and motor block were recorded. Sedation scoring as per five point sedation scale. **RESULTS:** Dexmedetomidine group had rapid onset of action ($p < 0.05$), prolonged duration of sensory and motor block ($p < 0.05$), better sedation score and postoperative analgesia ($p < 0.05$), and determine more intense motor block ($p < 0.05$). There was no difference in the maximal dermatomal level of analgesia, incidence of hypotension and bradycardia ($p > 0.05$). The occurrence of side effects (tremor, nausea and $SpO_2 < 90\%$) was low and similar between groups ($p > 0.05$). **INTERPRETATION AND CONCLUSION:** There is a clear synergism between dexmedetomidine and ropivacaine compared with plain ropivacaine in epidural anesthesia without increased morbidity.

KEY WORDS: Ropivacaine, Dexmedetomidine, Epidural