

ABSTRACT

BACKGROUND AND OBJECTIVES

Uncontrolled postoperative pain may produce a range of detrimental acute and chronic effects. Spinal anaesthesia provided by bupivacaine may be too short for providing postoperative analgesia. This study is conducted to evaluate the efficacy of intrathecal dexmedetomidine and intrathecal clonidine as an adjuvant to hyperbaric bupivacaine with regards to the onset and duration of sensory and motor blockade, as well as postoperative analgesia and adverse effects.

METHODOLOGY

Ninety patients aged 20-60 years were randomly divided into three groups each group consisting of 30 patients of either sex belonging to ASA class I and II posted for elective lower limb surgeries were given spinal anaesthesia using bupivacaine 0.5%, hyperbaric 15mg with either normal saline 0.5 ml (group B) or 50 µg of preservative free clonidine (group C) or 5µg of preservative free dexmedetomidine (group D). Total volume of the injected solution was 3.5ml in all three groups.

Assessment of the sensory and motor blockade were done at the end of each minute till the maximum level achieved. Measurement of blood pressure, pulse rate, respiratory rate and arterial oxygen saturation were obtained.

Postoperatively the patients were observed for the duration of analgesia, time taken for complete regression of sensory blockade to S1 and time taken for complete recovery of motor power.

RESULTS

Our results showed a statistically highly significant prolongation of sensory and motor blockade, time taken for sensory regression by two segments and postoperative analgesia in the dexmedetomidine and clonidine group compared to the control group. In dexmedetomidine group seven out of thirty patients, in clonidine group seven out of thirty patients and in control group two out of thirty patients developed hypotension. In dexmedetomidine group five out of thirty patients, in clonidine group four out of thirty patients and in control group one out of thirty patients developed bradycardia.

INTERPRETATION AND CONCLUSION

Hence, it is concluded from our study that dexmedetomidine in the dose of 5 µg or clonidine in the dose of 50 µg when added to the bupivacaine 0.5% hyperbaric prolongs the duration of sensory and motor blockade, time taken for sensory regression by two segments and duration of post-operative analgesia.

KEYWORDS: Sensory blockade and motor blockade, post-operative nalgesia; hyperbaric bupivacaine; intrathecal clonidine; intrathecal dexmedetomidine; lower lower limb surgeries; spinal anaesthesia; Bromage scale.