ABSTRACT

Background:

The quality and duration of analgesia is improved when a local anaesthetics is combined with an alpha 2 adrenergic agonists. Both Clonidine and Dexmedetomidine are alpha 2 adrenergic agonists which have analgesic properties have been extensively studied and it has been established that Clonidine as an adjuvant, effectively prolongs the duration of action of local anaesthetics when given epidurally. There are limited studies demonstrating the effects of epidural Dexmedetomidine and its effects of local anaesthetics.

Aims and objectives:

The aim of this study was to compare the effect of Clonidine and Dexmedetomidine in terms of anaesthesia, analgesia, sedation and side effects when used as an adjuvant to epidural Ropivacaine in lower abdominal and lower limb surgeries.

Methodology:

Patients were randomized to two groups RC and RD by computer generated numbers. Group RC received 15 ml of 0.75% of Ropivacaine with 1mcg/kg Clonidine and group RD 15ml of 0.75% of Ropivacaine with 1 mcg/kg Dexmedetomidine epidurally. Onset of sensory analgesia –using pin prick, onset of motor blockade –using Bromage score, time to 2 dermatome
regression of sensory level, time to first demand for analgesia, sedation – using Ramsay sedation scale, intra operative hemodynamic parameters and complications if any- nausea, vomiting, bradycardia, hypotension were noted.

Results:

Both groups were comparable demographically with respect to age and sex distribution, height and weight characteristics. The onset and duration of sensory blockade was found to be significantly shorter in the RD group (p<0.005). The sedation in group RD was found to be significantly better than group RC (p<0.005). There was no significant difference found between the two groups in terms of onset of motor blockade and hemodynamic changes. Both groups had a similar incidence of hypotension and bradycardia which was not found to be significant. The side effects in both groups were minimal and comparable between the two groups.

Conclusion:

We conclude that the addition of 1mcg/kg Dexmedetomidine as an adjuvant to 0.75% Ropivacaine in epidural anesthesia causes an early onset and prolonged duration of sensory analgesia in comparison to 1mcg/kg Clonidine. Epidural Dexmedetomidine cause better sedation as compared to Clonidine.