

“COMPARISON OF EPIDURAL DEXMEDETOMIDINE Vs MAGNESIUM SULPHATE USED AS ADJUVANT TO ROPIVACAINE FOR ANALGESIA IN POST THORACOTOMY PATIENTS”- (A prospective, controlled, double blind randomized study)

ABSTRACT

BACKGROUND

Post-thoracotomy pain management plays a very essential role in the outcome of thoracic surgery for lung resection. Use of high dose opioids for treating intense postoperative pain are associated with many side effects. Thoracic epidural analgesia (TEA) remains a critical to use in acute pain management. Research continues concerning different techniques and drugs that could prolong the duration of regional anaesthesia and postoperative pain relief. Dexmedetomidine is the selective 2-adrenoceptor agonist with analgesic potency. Magnesium has antinociceptive effects in animal and human models of pain.

AIMS AND OBJECTIVES

The purpose of the study is to evaluate the efficacy of Dexmedetomidine with Ropivacaine & Magnesium Sulphate with Ropivacaine as thoracic epidural analgesia with respect to post-operative Visual Analogue Scale for pain score, duration of analgesia, sensory block level, post operative hemodynamics and complications if any.

METHODS

60 undergoing thoracotomy were enrolled to receive either dexmedetomidine (Group D) or magnesium sulphate (Group M) till first epidural top up. In Group D, patients received 1 µg/kg dexmedetomidine + ropivacaine 0.375% and group M patients received magnesium sulphate 75 mg

+ ropivacaine 0.375% epidurally as an initial bolus dose. Pain assessment using a visual analogue scale (VAS), time to reach maximum sensory block level, sensory block level, first epidural top, heart rate, blood pressure were observed in the postoperative period. Any untoward complications like hypotension, hypertension, bradycardia, tachycardia, nausea, vomiting, respiratory depression were also observed.

OBSERVATION AND RESULTS

In our study the mean VAS scores of Group Dexmedetomidine were significantly lesser than in Group Magnesium sulphate. The mean duration of analgesia i.e the time to first epidural top up (after VAS>3) was longer in Group Dexmedetomidine (6.47 ± 1.0) hours whereas for Group Magnesium sulphate group it was (4.53 ± 0.90) hours. The time to reach maximum sensory block level was faster in Group M $14.93 (\pm 2.57)$ minutes & for Group D it was $21.03 (\pm 3.23)$ minutes. Post operative hemodynamics were stable and complications were minimal and tolerable.

CONCLUSION

From my study, I conclude that Epidural Dexmedetomidine is a better neuraxial adjuvant to Ropivacaine when compared to Magnesium sulphate regarding post-operative analgesia. Also it provides stable cardiorespiratory parameters. But epidural magnesium can be added as an adjuvant for better pain relief & VAS score without any side effects with the concentrations used in my study.

KEY WORDS: Epidural Analgesia; Thoracotomy; Dexmedetomidine; Magnesium Sulphate.