LEVOBUPIVACAINE 0.5% VERSUS BUPIVACAINE 0.5% IN EPIDURAL ANAESTHESIA FOR MAJOR LOWER LIMB SURGERY

Thesis

Submitted for partial fulfillment of master degree in anesthesia

By

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SUMMARY

Epidural anaesthesia in lower limb surgery is almost now preferred to general anaesthesia, due to its sound intra and post-operative anti-nociceptive effect, its lower incidence of hemodynamic fluctuation compared to general anaesthesia with endotracheal intubation, its considerable effect in reducing intra-operative bleeding and postoperative thrombo-embolic complications, and good control of postoperative pain. Clinical effects of neural blockade from local anaesthetics are primarily dependent on local factors. However, systemic toxicity is primarily dependent on blood levels of local anaesthetics. Resultant blood levels after administration of local anaesthetics for neural blockade are determined by the rate of absorption from the site of injection, the rate of tissue distribution, and the rate of elimination of the local anaesthetic agent.

Numerous studies of bupivacaine toxicity have revealed the importance of chirality or stereochemistry as a vital component. This discovery has led to the development and use of newer agents such as levobupivacaine.

Levobupivacaine is the latest local anaesthetic introduced in clinical practice. It was synthesized for the purpose of finding another local anaesthetic agent with the anaesthetic strength of bupivacaine but without the cardiotoxic and central nervous system sequelae.

The purpose of this study was to compare the clinical efficacy and the safety of 0.5% levobupivacaine and 0.5% bupivacaine both with fentanyl in patients undergoing epidural anaesthesia for lower limb surgery.

In the current study, 60 patients, 20-70 years old ASA-I and II undergoing epidural anaesthesia for lower limb surgery were randomly assigned into two equal groups:

Group B (n = 30) was anaesthetized epidurally by isobaric bupivacaine (Marcaine 0.5%) plus 100 µg fentanyl.

Group L (n = 30) was anesthetized epidurally by isobaric levobupivacaine (Chirocaine 0.5%) plus100µg fentanyl.

Monitoring was done to assess the sensory block onset, two segments regression and duration, motor block duration, associated hemodynamic changes, side effects and the initial analgesic requirement time.

This study revealed that the sensory onset was the same in both groups, two segment regression and sensory duration were longer in group L in comparison to group B. The motor duration was similar in levobupivacaine and bupivacaine groups. Initial analgesic requirement was longer in group L. There was no significant difference in intraoperative hemodynamic data or side effects between the groups.

It is **concluded** that levobupivacaine could be a good alternative to bupivacaine in patients administered epidural anaesthesia in elective lower extremity operations in terms of time of two segments regression, duration of sensory block and initial analgesic requirement.