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Spinal Anaesthesia with Hyperbaric Bupivacaine and Isobaric 2-Chloro Procaine for Short Duration Surgeries: A Prospective, Randomised, Double-blind, Comparative Study

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Abstract

Introduction: Ambulatory surgery has become more popular in recent years and till recently lidocaine was employed for these short-duration procedures. With the reporting of transient neurologic symptoms associated with its use, there is a search for new and safer agents.

Presently hyperbaric bupivacaine is used widely as an alternative to lidocaine but it has its disadvantages such as delayed ambulation and urinary retention. In this context, 1% isobaric 2-chloroprocaine was introduced into the clinical practice because of its short duration and least complications. There are very few studies comparing the block characteristics of bupivacaine with those of 1% isobaric 2-chloroprocaine.

Objectives: We conducted this study with an aim to compare the duration of the block obtained and adverse drug effects and haemodynamic fluctuations with 1% isobaric 2-chloroprocaine with that of 0.5% hyperbaric bupivacaine.

Methodology: A total of 60 patients were randomized to two study groups; group B and group C. Patients of group B received 3ml of 0.5% hyperbaric bupivacaine (15mg) + 1ml of normal saline intrathecally and those in group C received 4ml of 1% isobaric 2 chloroprocaine(40mg) intra-theccally.

Results: Duration of both sensory and motor blockade, the meantime for regression of sensory blockade to S2 dermatome were significantly shorter in chloroprocaine group than in the bupivacaine group.

Conclusion: 1% isobaric 2-chloroprocaine 40 mg used in 4 ml volume provides a faster sensory and motor recovery than 0.5% bupivacaine 15mg and doesn't produce urinary retention unlike bupivacaine and hence is better than 0.5% hyperbaric bupivacaine for short-duration procedures lasting less than 60 minutes.

Keywords: bupivacaine, 2-chloroprocaine, hyperbaric, isobaric.