

A Comparative Study of the Effect of 0.5% Hyperbaric Bupivacaine and 0.5% Isobaric Levobupivacaine on Spinal Anaesthesia in Patients Scheduled for Lower Abdominal Surgeries

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Abstract

Introduction: Recent advances in pharmacology introduced newer local anaesthetic drugs which can be used in subarachnoid block with less motor blockade and less effect on bladder had changed the patient care from prolonged hospital stay to day care. *Aim:* This study is to compare the efficacy of 0.5% hyperbaric Bupivacaine and 0.5% isobaric Levo-bupivacaine on spinal anaesthesia, in patients scheduled for Lower Abdominal Surgeries. *Materials and Methods:* The study is a randomized control study, including 2 groups of 40 patients each group B and L. group B studied with 3ml of 0.5% hyperbaric bupivacaine, group L studied with 3ml of levo bupivacaine. *Results:* Levobupivacaine has more delayed onset of both sensory and motor blockade with more time taken to attain maximum sensory level and faster two segment regression and lesser duration of both sensory and motor block when compared with the bupivacaine when the hemodynamic parameters were compared with the two groups, the decrease in HR < 20% of the baseline was not significant in both groups. The decrease in SBP < 20% of base line → 5/40, levo bupivacaine no fall in SBP/DBP. Adverse effects like bradycardia, shivering, vomiting was not seen in the two groups when compared. *Conclusion:* Levobupivacaine has more hemodynamic stability, delayed onset of action and shorter duration of anesthesia than 0.5% Hyperbaric Bupivacaine with comparable duration of motor blockade.

Keyword: Spinal Anaesthesia; Levobupivacaine; Bupivacaine; Sensory Blockade; Motorblockade; Hemodynamics.

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Introduction

Levobupivacaine is a pure s (-) enantiomer of Bupivacaine introduced as a safer alternative to Bupivacaine in regional anesthesia. It has the advantage over Bupivacaine in causing lesser cardiac and neuro toxicity because of its lesser affinity toward cardiac and neuronal changes [1]. Its efficacy on sensory and motor blockade was found to be as potent as hyperbaric bupivacaine in spinal anesthesia [3]. Levobupivacaine reversibly

blocks the sodium channels at the nodes of Ranvier in myelinated nerves as compared to unmyelinated nerves leading to faster onset [17].

Materials and Methodology

After obtaining approval from the institutional ethical committee, Eighty patients undergoing elective lower abdominal surgery under spinal anaesthesia were randomly selected for the study.

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