

# DOSE OF REPEAT HYPERBARIC BUPIVACAINE 0.5% AFTER FIRST SPINAL FAILURE IN CESAREAN SECTION:

## A META-ANALYSIS

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## INTRODUCTION

Occasional failure in spinal anesthesia for cesarean section is inevitable and is managed by either conversion to general anesthesia or repeating the spinal tap. Because the benefits of regional anesthesia outweighs that of general anesthesia in obstetrics, an attempt at repeating the spinal tap may be the better option. By comparing the efficacy and safety of different doses of hyperbaric Bupivacaine 0.5% after the first spinal block failure in cesarean section, this study will provide information for selecting the appropriate dose of Bupivacaine for repeat spinal block in Cesarean Section. This reduces the risk of inadequate anesthesia and overdosing and its associated complications both to mother and fetus.

## METHODS

Literature search through journal databases was done. PRISMA guidelines for screening was followed to determine which studies were eligible for review. Cochrane RoB 2 was used to assess for quality. Quantitative data were pooled and analyzed using Review Manager 5.4.1.

## RESULTS

Two studies were included with a total population of 140 women for cesarean section. Pooled data demonstrated no significant difference in efficacy between 10mg and 12mg hyperbaric Bupivacaine 0.5% (RR=1.00; 95%CI=0.96, 1.03; p-value=0.84; I<sup>2</sup>=0.01%). Pooled risk ratio and mean differences of outcomes for safety showed significant difference in the incidence of hypotension (RR=0.51; 95%CI=0.38, 0.68; p-value=0.00; I<sup>2</sup>=0.26%), bradycardia (RR=0.13; 95%CI=0.02, 0.69; p-value=0.02; I<sup>2</sup>=0.00%) and nausea and vomiting (RR=1.00; 95%CI=0.96, 1.0; p-value=0.00; I<sup>2</sup>=0.00%)

## CONCLUSION

The present data showed no difference in efficacy between 10mg vs 12mg of repeat hyperbaric Bupivacaine 0.5%. Outcomes measured for safety favors 10mg dose to prevent hypotension, bradycardia and nausea and vomiting. Spinal anesthesia can be safely repeated with 10mg hyperbaric Bupivacaine 0.5% after failed spinal in cesarean section to prevent serious adverse events.

**KEYWORDS:** Failed Spinal, Repeat Spinal, Bupivacaine 0.5%, Cesarean Section