

Effect of intravenous lignocaine infusion on bispectral index during spinal anaesthesia for caesarean section: A prospective randomised double-blind study

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ABSTRACT

Background and Aims: Systemic lignocaine has been shown to have sedative effects. We designed this randomised-double-blind, placebo-controlled study to evaluate the effect of intravenous lignocaine on the bispectral index (BIS) during caesarean section under spinal anaesthesia. **Methods:** 80 patients scheduled for elective caesarean section under spinal anaesthesia were randomly allocated to 2 study groups. Group L received intravenous 1.5 mg/kg of lignocaine bolus, 15 minutes before spinal anaesthesia followed by an intravenous infusion 1.5 mg/kg/h for 60 minutes intravenously. The patients in the control group (C group) were given 0.9% sodium chloride in a double-blind fashion. Spinal anaesthesia was performed with 10 mg of 0.5% bupivacaine. The changes of Sao₂, BIS and hemodynamic variables during caesarean section, Apgar score of neonate and the incidence of adverse effects were recorded.

Results: BIS values were lower in the L group compared to C group ($P \leq 0.001$). Comparison of mean arterial pressure (MAP) changes during spinal anaesthesia and surgery reveal statistically significant difference between two groups through repeated measure analysis ($P \leq 0.001$), but comparison of heart rate (HR) changes during spinal anaesthesia and surgery failed to reveal any statistically significant difference between two groups. ($P = 0.261$). The Apgar scores did not reveal a significant difference between the two groups at first and five minutes after delivery ($P = 0.99$).

Conclusion: Intravenous lignocaine infusion given with spinal anaesthesia in women undergoing elective caesarean delivery providing lower BIS values without respiratory depression, in the absence of foetal compromise.

Key words: Bispectral index monitor, caesarean section, intravenous lignocaine, spinal anaesthesia

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INTRODUCTION

Supplementation of spinal anaesthesia with sedatives or anxiolytics has emerged as a routine practice to improve patient satisfaction without affecting fetal and neonatal outcomes. Systemic lignocaine has been shown to have sedative effects and also, some investigators supposed that, the hypnotic-sparing effect of lignocaine occur only during surgical stimulation, suggesting an anti-nociceptive effects.^[1]

Intravenous lignocaine infusion has shown many perioperative advantage such as reducing pain,

nausea, opioid consumption, facilitating early recovery of bowel function after surgery, and reducing inflammation and hospital stay in patients

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