



COMPARISON OF CROSSED-LEG SITTING POSITION WITH THE TRADITIONAL SITTING POSITION FOR THE EASE OF INSERTION OF SPINAL NEEDLE IN PARTURIENTS UNDERGOING LSCS

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ABSTRACT

Background: Patient positioning influences the ease of spinal anaesthesia in obstetric patients.

Objective: To compare crossed-leg sitting position with the traditional sitting position for first-attempt lumbar puncture success in women undergoing LSCS. **Methods:** Prospective randomized study of 90 parturients, 45 in each group. Primary outcome was successful first-attempt lumbar puncture. **Results:** First-attempt success was significantly higher in the crossed-leg group (38/45) than the traditional group (20/45; $p=0.01$). **Conclusion:** Crossed-leg sitting position improves technical ease and first-pass success during spinal anaesthesia for LSCS.

KEYWORDS : spinal anaesthesia, caesarean section, crossed-leg sitting, obstetric anaesthesia, lumbar puncture.

INTRODUCTION

Spinal anaesthesia is the technique of choice for most elective and emergency caesarean deliveries because it provides rapid onset, dense sensory and motor blockade, avoids airway manipulation and allows the mother to remain awake during delivery. However, successful spinal needle placement may be technically difficult in pregnant women owing to exaggerated lumbar lordosis, weight gain, oedema and reduced ability to flex the lumbar spine. Appropriate patient positioning is therefore an important modifiable factor that can improve first-pass success and reduce repeated attempts, patient discomfort and procedure-related complications. The crossed-leg sitting position increases hip and knee flexion, promotes posterior pelvic tilt and enhances lumbar flexion, thereby widening the interspinous spaces. Although promising, evidence in obstetric patients remains limited, necessitating further evaluation.

MATERIALS AND METHODS

This prospective randomized comparative study included 90 term parturients (18–40 years, ASA II–III, BMI 18–35 kg/m²) undergoing LSCS under spinal anaesthesia. Participants were randomized equally into crossed-leg sitting position and traditional sitting position groups. Exclusion criteria included spinal deformity, lumbar scar, BMI > 35 kg/m², contraindication to spinal anaesthesia and uncooperative patients. All spinal blocks were performed by the same consultant anaesthesiologist using standard aseptic precautions. The primary outcome was successful first-attempt lumbar puncture. Statistical analysis included descriptive statistics and Chi-square test, with $p < 0.05$ considered significant.

RESULTS

Baseline age distribution was comparable between groups. Successful first-attempt lumbar puncture occurred in 38 of 45 patients (84.4%) in the crossed-leg group compared with 20 of 45 (44.4%) in the traditional sitting group. Failure of first-attempt puncture occurred in 7 and 25 patients respectively. The difference was statistically significant ($p=0.01$), indicating superior performance of the crossed-leg sitting position.

DISCUSSION

The present study demonstrates that the crossed-leg sitting position significantly improves first-pass success of spinal needle insertion in parturients undergoing LSCS. Increased flexion at the hips and knees reduces lumbar lordosis and

improves exposure of the interspinous spaces. This minimizes needle–bone contact and decreases the need for multiple redirections. Similar observations have been reported by Puthenveetil et al., Manggala et al. and Pryambodho et al. The technique is simple, inexpensive, requires no additional equipment and can be easily incorporated into routine clinical practice. Improved first-attempt success may shorten procedure time, improve patient comfort and reduce procedural complications.

CONCLUSION

Crossed-leg sitting position is a practical and effective modification that significantly increases first-attempt success of lumbar puncture in parturients undergoing LSCS under spinal anaesthesia. It should be considered whenever patient condition permits.

DECLARATIONS

Ethics approval: The study was conducted after approval from the Institutional Ethics Committee. Written informed consent was obtained from all participants.

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Conflict of Interest: None declared.

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