Is the Incidence of Nausea, Vomiting, and Hypotension Affected By the Position of Parturients Undergoing Cesarean Section (C/S) with Combined Spinal-Epidural Technique (CSE)?

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Introduction: We routinely administer IV 8mg Ondansetron and 10mg metoclopramide upon induction of CSE for treatment of N/V during C/S. We determined whether the position of the parturient receiving CSE affects the incidence of N/V and hypotension.

Methods: In this retrospective review of parturients undergoing induction of CSE with hypobaric bupivacaine 10mg + fentanyl 20mcg + epinephrine 100mcg for C/S, two groups were identified: GI (n=25) were in the lateral decubitus position and GII (n=28) were in the sitting position. Patients’ height, weight, ASA status, gestational age, Apfel score, hypertension (>140/90), hypotension (<90 systolic), hypoxia (O2 Sat <85%), blood loss >700mL, efficacy of sensory block for C/S, evidence of N/V during procedure (after administration of epidural meds, after eversion of uterus, after replacement of uterus, upon arrival to PACU), N/V treatment satisfaction, and overall satisfaction were recorded. Student’s t-test, Chi-squared test, and Fisher’s exact test were used for statistical analysis. Data was presented as Mean ± S.D., p<0.05 was significant.

Results: No significant differences among the groups with respect to age, height, ASA status, gestational age, Apfel score, incidences of hypertension, hypoxia, blood loss >700mL, efficacy of sensory block, and overall satisfaction. GII weighed significantly more than GI, 217.8 lbs ± 49.9 and 164.1 lbs ± 23.8 (p=0.0000097) respectively. There was no significant difference in incidence of hypotension (p=0.082), and no significant difference in vomiting. However, in sitting position, there was a significantly higher incidence of nausea during the procedure and after application of CSE and a significantly lower N/V satisfaction >7.

Conclusion: The significantly higher incidence of nausea in sitting position can be due to hypobaric fentanyl migrating faster rostrally to the vomiting center and chemoreceptor trigger zone. The significantly higher wt in GII is due to being technically easier to perform CSE in heavier individuals in the sitting position. Furthermore, the heavier weight parturients of the sitting position group tend to have smaller volumes of CSF, which may cause higher spread of intrathecal fentanyl. This study showed that there is a higher incidence of nausea but no difference in hypotension or vomiting (which may require more patients) when receiving CSE for C/S in the sitting position as opposed to the lateral decubitus position.