26331 - GRANISETRON DOES NOT PREVENT NAUSEA AND VOMITING DURING C-SECTION

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Introduction: Intraoperative nausea and vomiting (IONV) during Cesarean section (CS) under regional anesthesia remains a challenge in clinical practice. The etiologies of IONV include hypotension, vagal hyperactivity, visceral pain, intravenous opioids and uterotonics. The efficacy of prophylactic anti-emetics remains controversial. Different studies have shown their beneficial effects; however, the high incidence of IONV in their control groups suggests inadequate control of the multiple causative factors¹. The purpose of our trial was to determine the efficacy of granisetron for prevention of IONV during CS under spinal anesthesia with strict control of the causative factors.

Methods: With REB approval, a prospective, randomized, double-blinded, placebo-controlled trial was conducted in 176 patients undergoing elective CS under spinal anesthesia. After preload with 10 ml/kg of lactated Ringer's solution, spinal anesthesia was administered with 0.75% hyperbaric bupivacaine 15 mg, fentanyl 10 µg and morphine 0.1 mg. Aliquots of phenylephrine were used to maintain systolic blood pressure at 100% of baseline. Upon delivery of the fetus, oxytocin boluses of 0.5 IU were administered as needed followed by maintenance infusion. The patients randomly received either granisetron 1 mg or normal saline (placebo), intravenously, immediately after clamping of the umbilical cord. In case of persistent nausea or vomiting, rescue dimenhydrinate 50 mg was administered intravenously. The primary outcome was the presence of postdelivery IONV. Secondary outcomes included need for rescue medication, hypotension, pain and nature of the surgical stimuli.

Results: There was no difference in maternal demographics and obstetric data between the groups. The overall incidence of postdelivery nausea and vomiting was 17% and 4% respectively. The incidence of IONV was similar in both groups. Other results are presented in the table.

Discussion: In contrast to the majority of studies in the literature¹⁻³, our study shows that prophylactic granisetron 1 mg is not effective in reducing the incidence and severity of IONV when the causative factors are strictly controlled. As compared to a previous study done at our institution⁴, our current study suggests that a higher dose of bupivacaine might result in more effective block thereby reducing visceral pain and thus IONV, especially when uterine exteriorization is performed.

References:

1. Int J Obstet Anesth 2005; 14: 230-4.
2. J Clin Anesth 2001;13: 430-5.
3. Anaesthesia 1999; 54: 479-82.
4. Anesthesiology 2005;102: SOAP A13

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Outcome measures and intraoperative data

Data	Granisetron N =88	Placebo N =88	p- value
Nausea (n, %)	16 (18.2)	14 (15.9)	0.69
Retching (n, %)	1 (1.1)	2 (2.3)	1.00
Vomiting (n, %)	3 (3.4)	4 (4.6)	1.00
Rescue antiemetic (n, %)	7 (8)	6 (6.8)	0.77
Hypotension (n, %)	1 (1.1)	0 (0)	1.00
Pain (n, %)	1 (1.1)	2 (2.3)	1.00
Uterine exteriorization (n, %)	55 (62.5)	67 (76.1)	0.05
Duration of uterine repair (min, mean±SD)	11.13 (4.5)	11.69 (4.8)	0.43
Tubal ligation (n, %)	11 (12.5)	18 (20.5)	0.15
Sensory block level (median, range)	T4 (T1-T7)	T4 (T1-T5)	0.34