A5

THE EFFECT OF INJECTION RATE ON HYPOTENSION DURING SPINAL ANESTHESIA FOR ELECTIVE CESAREAN SECTION *Seltenrich, M.; Kamani, A.; Gunka, V.; Douglas, J. Anesthesia, BCWH, Vancouver, BC, Canada* Hypotension is a common problem following spinal anesthesia for elective Cesarean section[1]. Numerous methods have been attempted to attenuate the hypotension with disappointing results[2]. We speculate that a slower injection rate should cause a slower onset of sympathetic blockade and less hypotension. **Methods:** After institutional ethics approval, and informed consent, 60 healthy patients admitted for elective Cesarean section under spinal were recruited and randomized to one of three groups. All groups were treated equally in all respects, except the injection rate of the spinal anesthetic was either 10, 30, or 90 seconds. All patients received the same spinal anesthetic solution, with a volume of 1.9 cc. All injections were performed by one of the investigators. The anesthesiologist managing the case was blinded as to the injection rate. **Results:** To date 38 patients have been enrolled. Patient demographics were similar among the groups. Our primary endpoint was the total dose of ephedrine required during the case (Table 1). There were less hypotensive episodes and slower onset of T4 block in the slower injection group. Quality of anesthesia, surgery length, and fluid administered were similar among all groups. **Discussion:** Results after 38 patients suggest that a slower injection rate leads to less need for vasopressors than faster injection rates. One possible explanation is that slower onset of sympathetic blockade allows more time for physiological compensation. **Reference:** 1. International Anesthesiology Clinics 1994; 32:117-135 2. British Journal of Anesthesia 1993; 70:672-680

Group	Injection Time (s)	Injection Rate (ml/s)	Avg. Ephedrine (mg) ± SD
A	10	0.19	20.8±13.3
B	30	0.063	12.8± 9.7
C	90	0.021	8.1± 8.8

A6

OBESITY AND INCREASED RISK FOR CESAREAN DELIVERY *Leicht, C.H.; Velickovic, I.A.; Velickovic, M.S.; Nystrom, E.U. Anesthesiology, The Western Pennsylvania Hospital, Pittsburgh, PA* The incidence of cesarean section is defined by factors that relate to the patient, the anesthesiologist, and the environment. Charts were reviewed from eleven hundred consecutive deliveries between July 1999 and June 2000, the following parameters were evaluated: Body mass index (BMI), party, age, analgesic technique, epidural catheter bolus doses, duration of labor analgesia, and method of delivery. The patients were thereafter stratified into four groups based on BMI : Group I <29; II 29 to 34.9; III 35 to 39.9; IV >39.9. All variables were then compared among the four groups.Chi-square test was done, $p < .05$ considered significant. There was no difference between the groups with regard to parity, age, analgesic technique, or duration of labor analgesia. However, there was significant positive correlation between BMI and the number of epidural catheter bolus doses needed for satisfactory labor analgesia. Similarly, the incidence of Cesarean section was up to four times higher among patients with BMI greater than 29. The rate of Cesarean section was independent of mode and duration of labor analgesia. The data support conclusions drawn from a smaller, prospective study on obesity and labor, where "even moderate overweight was found to be a significant risk factor" (1). **Reference:** 1. International Journal of Obesity & Related Metabolic Disorders 19:443-8, 1995

Group	n	C/S rate	p-value v. gr. 1
All	1118	8%	
1	480	4.5%	
2	370	9%	.0036*
3	115	16.5%	.0001*
4	85	11%	.0125*

POSTER REVIEW #1

A7 (Poster 1)

THE EFFECT OF SITTING AND AMBULATING ON LABOR DURATION AND MATERNAL OUTCOME *Vallejo, M.C.; Firestone, L.L.; Mandell, G.L.; Jaime, F.; Makishima, S.E.; Ramanathan, S. Anesthesiology, Magee-Womens Hospital, University of Pittsburgh, Pittsburgh* Both the upright position and ambulation reportedly shortens labor and improves maternal outcome.(1) We aim to determine if sitting and ambulation with walking epidural analgesia (WEA) decreases labor duration and improves maternal outcome. Following IRB approval, 151 nulliparous parturients with WEA were randomized to ambulate (n=75) or not to ambulate (n=76). Patients in the ambulatory group were encouraged to both sit and ambulate. WEA blocks were started with 15-20 ml of 0.07% Ropivacaine (R), no test dose, followed by an infusion of 0.07% R + 2 mcg/ml fentanyl at 15-20 ml/hr. Ambulating and sitting times, labor duration, and outcome were compared (Table). Results are expressed as mean ± SD and analyzed using t-test or chi-square at $p < 0.05$. Of the 75 patients in the ambulatory group; 46.7% walked 25.0±23.3 mins, 60% sat 40.3±29.7 mins and 26.7% both walked 28.2±24.7 mins and sat 41.4±30.7 mins respectively. No patient in the non-ambulatory group sat or ambulated. No differences were noted with labor duration and in the operative delivery rate among the groups. WEA with sitting and ambulation does not appear to shorten labor nor improve maternal outcome. **Reference:** 1. Chestnut DH. Obstetric Anesthesia, Principles and Practice. 1994

	Ambulatory	Non-ambulatory	P
Stage I (mins)	240.9±146.1	211.9±133.9	0.206
Stage II (mins)	97.3±76.0	89.1±67.3	0.487
Total (mins)	336.2±182.6	293.8±160.3	0.131
Vaginal Delivery (%)	68.0	73.7	0.556
Vacuum/Forceps (%)	13.3	6.6	0.265
Cesarean (%)	18.7	19.7	0.968