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FETAL HEART RATE AND UTERINE CONTRACTION PATTERN ABNORMALITIES AFTER COMBINED SPINAL/EPIDURAL VS. SYSTEMIC LABOR ANALGESIA Scavone, B.M.¹ Sullivan, J.T.¹ Peaceman, A.M.² McCarthy, R.J.¹ Strauss-Hoder, T.P.¹ Wong, C.A.¹ 1. Anesthesiology, Northwestern University Medical School, Chicago, IL; 2. Obstetrics and Gynecology, Northwestern University Medical School, Chicago, IL. Fetal heart rate (FHR) abnormalities have been associated with the initiation of neuraxial labor analgesia (1). The purpose of this randomized study was to determine the incidence of FHR and uterine contraction abnormalities after intrathecal vs. systemic opioid labor analgesia. 100 healthy nulliparous patients presented at term in spontaneous labor or with spontaneous rupture of membranes and requested labor analgesia at < 4 cm cervical dilation. After giving informed consent they were randomly assigned to receive intrathecal opioid as part of a combined spinal/epidural technique (fentanyl 25 mcg followed by epidural test dose of 3 ml-1.5% lidocaine with epinephrine 15 mcg) vs. systemic opioid (hydromorphone 1 mg IV/1 mg IM). Continuous FHR and external uterine pressure tracings were obtained for a 90 min period beginning 30 min before and ending 60 min after initiation of analgesia. A perinatologist blinded to patient group examined the tracings for FHR and contraction pattern abnormalities according to predefined criteria, and also determined whether FHR abnormalities were associated with increases in uterine contraction frequency (>10 per 20 min) or duration (>70 sec). The tracings were also rated as reassuring or non-reassuring. The medical records of patients who developed FHR abnormalities were examined to determine if the abnormalities were associated with hypotension (SBP < 100 mmHg) or resulted in any obstetric interventions. Neonatal APGAR scores were recorded. Data were analyzed between groups using the Mann-Whitney U test and within groups over time using the Wilcoxon signed ranks test ($P < 0.05$ significant). Four of 49 patients who received intrathecal opioid developed late decelerations (decrease of ≥ 10 bpm, ≥ 30 sec), judged to be non-reassuring, after analgesia, compared to 0 of 51 patients who received systemic opioid ($P = 0.08$). There were no differences in other FHR abnormalities or uterine contraction abnormalities. Late decelerations were not associated with uterine contraction abnormalities or hypotension, nor did they result in obstetric intervention, and all resolved spontaneously. There was no difference in neonatal APGAR scores. There were no significant differences in FHR tracings or uterine contraction patterns between patients receiving intrathecal vs. systemic opioid labor analgesia. While late decelerations were occasionally observed, they were not clinically significant, based on lack of obstetric intervention. The increased frequency of late decelerations following intrathecal opioid labor analgesia deserves further study. 1. Norris MC. *International Journal of Obstetric Anesthesia* 2000; 9:264-69.

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THE INFLUENCE OF CONTINUOUS LABOR SUPPORT ON THE CHOICE OF ANALGESIA, AMBULATION AND OBSTETRIC OUTCOME Muir, H.A.¹ Hodnett, E.D.² Hannab, M.E.² Lowe, N.K.⁴ Willan, A.R.³ Stevens, B.² Weston, J.A.² Ohlsson, A.² Gafni, A.⁵ Mybr, T.L.² Stremler, R.² 1. Anesthesiology, Duke University, Durham, NC; 2. University of Toronto, Toronto, ON, Canada; 3. McMaster University, Hamilton, ON, Canada; 4. Ohio State University, Columbus, OH Purpose: A Cochrane review examining the effects of continuous labor support (CLS), showed a reduction in cesarean section rate and use of labor analgesia. These studies were conducted in a wide range of settings and in 10 countries. We hypothesized that similar results could be achieved in North American centers if patients received continuous care by a nurse trained in labor support techniques. Methods: In this randomized controlled trial, hospitals from the USA and Canada were invited to participate if they had a C/S rate >15%, a 24h epidural service and the potential to provide 1:1 nursing care. A group of study nurses were trained in CLS techniques. Following IRB approval, laboring women >34 wks gestation were randomized to CLS or usual care (UC). Patients and obstetricians were free to make decisions as needed regarding use of analgesia and interventions. For patients who chose epidural analgesia, the anesthesiologists were encouraged to use a technique which might allow ambulation. Intrapartum data collection included delivery and neonatal outcomes, length of labor, analgesia use and satisfaction indices. Results: 6915 women were enrolled over 2 years at 13 centers (3454 to CLS and 3461 to UC). Demographic data were similar between the 2 groups. All study outcomes were similar between the 2 groups with the exception of satisfaction, which was higher in the CLS group. Data specific to the use of regional anesthesia are in table 1 and ambulation in table 2. Discussion: In this large study we were unable to demonstrate an effect on delivery outcome, use of epidural analgesia and incidence of ambulation in labor with the intervention of CLS. Factors other than the type of nursing care provided influence the patients' decisions regarding analgesia use and ambulation. We hypothesize that these include the hospital culture and societal expectations. 1. Hodnett ED. *Cochrane Library* 2001

table 1 -from study record	CLS (n)	UC (n)
use of epidural analgesia	68%(2349)	70.4%(2436)
Time from randomization to delivery	6.6h	6.6h
Time from epidural to delivery	4.5h	4.5h
Table 2 - from patient questionnaire	CLS	UC
able to move through out labor	660	720
Walked or sat in a chair	333	278