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PATIENT CONTROLLED ANALGESIA USING FENTANYL FOR SECOND TRIMESTER LABOR ANALGESIA. VARYING BOLUS DOSE AND LOCKOUT INTERVAL. *Castro, C.¹ Tharmaratnam, U.¹ Tam, K.³ Brockhurst, N.³ Tureanu, L.¹ Windrim, R.² Mowbray, M.³* 1. Anesthesia, Mount Sinai Hospital, Toronto, ON, Canada; 2. OB/GYN, Mount Sinai Hospital, Toronto, ON, Canada 3. Nursing, Mount Sinai Hospital, Toronto, ON, Canada Labor analgesia for second trimester (14-24wks) termination is provided by parenteral narcotics, most commonly by PCA morphine. We hypothesized that fentanyl is more suitable for PCA in this group of patients due to rapid onset of action and fewer side effects. The study was designed to compare standard PCA morphine to three regimens of PCA fentanyl. The PCA delivery/demand ratio in the two hrs preceding delivery is the primary outcome. Secondary outcomes are to compare severity of pain, patient satisfaction and side effects (nausea, vomiting, pruritus, and sedation). After ethics approval and informed consent, 60 ASA I-III patients undergoing termination of pregnancy for fetal anomalies were randomly allocated to four treatment groups (n =15 gp). A nurse clinician blinded to the treatment groups recorded vital signs, effect of analgesia, side effects and treatment of side effects after initiation of PCA until delivery. Within two hrs of delivery, another blinded observer administered four VAS scales measuring patient satisfaction, anticipated pain relief, pain relief in labor and pain relief at delivery. Demographic data, side effects and their treatment, doses of oxytocin and prostaglandin, and PCA flow sheet were recorded. PCA pump data were printed and the usage in the last two hrs was entered into a computer database. Data were analyzed using ANOVA and student's t-tests. Demographics were similar between the groups. The mean (\pm SD) delivery/demand ratios for the final two hrs preceding delivery were 0.65(\pm 0.26), 0.67(\pm 0.21), 0.63 (\pm 0.21), and 0.81(\pm 0.17) respectively, in each of the four treatment groups, however the mean differences were not statistically significant (p=0.13). There were statistically significant intergroup differences in each of the VAS pain relief scores with patients in the fentanyl 25 ug bolus group (Group 3) having consistently worse performance than other treatment groups. Patients in the morphine group showed more side effects than any of the fentanyl groups, while Group 2 (50ug fentanyl, 6min lockout) had the lowest occurrence of side effects. Intergroup differences in side effects were statistically significant for vomiting (p=0.023) and pruritus (p=0.023). Our study results show that there was no statistical difference between PCA fentanyl and PCA morphine using delivery/demand ratios. Use of fentanyl is associated with fewer side effects and more patient satisfaction compared to morphine. 1. *Anesthesia* 1989;44,7-10. 2. *Anesthesiology* 1999;90,568-599.

	Group 1 Morphine	Group 2 Fentanyl	Group 3 Fentanyl	Group 4 Fentanyl
Bolus dose	2 mg	50 ug	25 ug	50 ug
Lockout	6 min	6 min	3 min	3 min
4hr limit	40 mg	1.2 mg	1.2 mg	1.2 mg

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THE EFFECTS OF LOW-DOSE EPIDURAL TECHNIQUE FOR LABOR ANALGESIA ON FETAL HEART RATE (FHR) *Hill, J.¹ Alexander, J.M.¹ Sharma, S.K.² McIntire, D.D.¹ Leveno, K.J.¹* 1. Obstetrics and Gynecology, University of Texas Southwestern Medical Center, Dallas, TX; 2. Anesthesiology, University of Texas Southwestern Medical Center, Dallas, TX Our purpose was to determine the effects of continuous low-dose epidural technique on fetal heart. This is a secondary analysis of 459 nulliparous women, in spontaneous labor at term, who were randomly assigned to receive epidural or IV meperidine for labor analgesia. Epidural analgesia was initiated with boluses of 3 mL of 0.25% bupivacaine and was maintained with 0.0625% bupivacaine and fentanyl (2 mcg/mL) every 15 minutes, as needed using a patient-controlled pump. Women in the IV analgesia group received 50 mg of meperidine with 25 mg of promethazine hydrochloride as an initial bolus, followed by 15 mg of meperidine every 10 minutes, as needed using a patient-controlled pump. Two examiners, blinded to the choice of analgesia, independently reviewed available FHR tracings recorded during the 40 minutes after initiation of analgesia. FHR was classified according to the guidelines recommended by the NICHD Fetal Monitoring Research Planning Workshop (AJOG 1997;177,1385-90). Low-dose continuous epidural analgesia is not associated with FHR decelerations. Meperidine, compared to epidural analgesia, is associated with reduced beat-to-beat variability and suppression of accelerations.

FHR	Epidural n = 226 (%)	Meperidine n = 223 (%)	P value
Vanability			<0.001
Absent	29 (13)	81 (35)	
Mild	10 (4)	42 (18)	
Moderate	132 (58)	94 (40)	
Marked	55 (24)	16 (7)	
Accelerations	175 (77)	96 (41)	<0.001
Decelerations			0.58
None/early	157 (69)	169 (75)	
Late	4 (2)	1 (0)	
Variable	63 (28)	61 (26)	
Prolonged	2 (0)	2 (1)	