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EPIDURAL BUPIVACAINE DECREASES PUSHING STRENGTH *Maloney, S.R.; Johnson, J.L.; Hughes, S.C.; Rosen, M.A. Anesthesia, University of California San Francisco, San Francisco, CA* **Introduction:** Labor epidurals may increase the incidence of instrument-assisted deliveries.[1,2] If epidural bupivacaine decreases ability to "push", it may prolong second stage and/or increase the need for instrumental deliveries. Weakened pelvic floor muscles may also hinder descent and rotation of the fetal head. This study quantitatively measures epidural bupivacaine's effect on pelvic floor muscles and pushing strength in healthy non-pregnant women. **Methods:** Investigators measured baseline valsalva and pelvic floor muscle strength with rectal pressure catheters in 15 volunteers. This method is well-validated.[3] Volunteers received blinded, randomized epidural boluses and 2 hr infusions of 0.25% or 0.125% bupivacaine. Measures of pelvic floor tone and pushing strength were taken at 30min, 120min, and until volunteers returned to +/- 10% baseline. Then, volunteers crossed over to receive the other solution and repeat measurements. Data were analyzed using ANOVA with repeated measures and Students t-tests. **Results:** The loss of pushing strength with 0.25% bupivacaine from baseline was statistically significant at both 30 ($p=.017$) and 120 ($p=.035$) min. The loss from 0.125% was less significant ($p=.052$ at 30, $p=0.17$ at 120min). There was also a trend toward pelvic floor muscle relaxation. **Conclusions:** 0.25% epidural bupivacaine significantly decreases pushing strength. 0.125% bupivacaine may also. Further study is needed to determine this and pelvic floor effects. **Reference:** 1. NEJM 337(24): 1715-9, 1997. 2. Anesth 87(3): 487-94, 1997. 3. Br J Urol 53:333, 1981.

	Baseline	0.125% Bup @ 30min	0.125% Bup @ 120min	0.25% Bup @ 30min	0.25% Bup @ 120min
Pushing	1734 (mmHg-sec)	1590	1609	1479	1484
Pelvic sling contract	923 (mmHg-sec)	909	813	898	835
Pelvic rest	43.8 (mmHg)	39.1	37.4	36.1	38.8

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ROPIVACAINE COMPARED WITH BUPIVACAINE FOR LABOR ANALGESIA AND ABILITY TO AMBULATE *Swide, C.E.; Neupane, N.; Horn, J.L. Department of Anesthesiology, Oregon Health Sciences University, Portland, OR* **Introduction:** Use of dilute epidural local anesthetics has allowed ambulation with analgesia in labor(1). Approximately 60% of patients in our institution have adequate motor strength to ambulate with dilute bupivacaine. This study was designed to determine if we could increase ambulation with ropivacaine. **Methods:** After IRB aproval, term patients with a single vertex presentation requesting epidural labor analgesia were assigned to one of three groups: Group A (N=23) received 0.1% ropivacaine, group B (N=22) received 0.055% bupivacaine, Group C (N=26) received 0.06% ropivacaine. All three solutions contained 1 mcg/cc of sufentanil and 1:600K epinephrine. After placement of a lumbar catheter, patients received a 10cc bolus of the assigned solution then an infusion of 10cc per hour. Visual Analog Scale (VAS) for pain was obtained at 0, 10, 20 and 30 minutes after dosing. At 30 minutes, a modified Bromage score (MBS)(2) was used to test motor blockade and a Visual Satisfaction Scale (VSS) was obtained. A MBS $\geq$ 5 is required for ambulation at our institution. Data were analyzed using ANOVA, and chi-square when appropriate. **Results:** No significant differences were detected between the groups for the studied variables ($p\geq0.05$). All patients had similar time to comfort (VAS$\leq$ 3), MBS at 30 minutes (mean 4.83 ± 1.13), and VSS scores. Patients achieving a MBS of $\geq$5 thus allowing ambulation were 14/23 in Group A, 13/22 in Group B, and 16/26 in Group C. There were no analgesic failures or toxicity in any patient. **Conclusion:** Ropivacaine has been reported to provide less motor blockade at equipotent analgesic doses compared with bupivacaine(3). In this study we did not observe any improvement in motor strength allowing ambulation with ropivacaine compared to bupivacaine despite equivalent analgesic scores and patient satisfaction. **Reference:** 1. Br J Anaesth 73:540-2,1994 2. Anesth Analg 77:919-24,1993 3. Anesthesiology 92(6):1588-93,2000

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HAEMODYNAMIC CHANGES WITH 'MOBILE' EPIDURALS IN LABOUR: IS IT SAFE FOR WOMEN TO AMBULATE? *HUSSAIN for the COMET Study Group UK., W. Leicester Royal Infirmary, Leicester, United Kingdom* **Background:** Hypotension is a recognised complication of regional analgesia in labour. Low dose bupivacaine techniques have less hypotensive effects (1). The hypotensive effects of low dose 'top-ups' & continuous infusions have rarely been compared in parturients, particularly when mobilising. **Aims:** To compare the haemodynamic effects of two 'mobile' epidural techniques (combined spinal-epidural [CSE] & a low dose infusion [LDI] using fentanyl 2mcg/ml & bupivacaine 0.1%; 10mg/ml), with a traditional technique in labouring women. **Methods:** 108 primiparous women randomised within a larger trial had detailed blood pressure (BP) & pulse rate measurements taken following epidural initiation & when mobilising. A control group (without epidural analgesia) also had haemodynamic parameters assessed during ambulation. **Results:** A significant fall in systolic BP (>20%) occurred in 5 women (14%) in both the traditional & CSE groups within thirty minutes of regional blockade. This occurred in only 1 woman (3%) in the LDI group (Fishers exact NS, $p=0.099$ compared with traditional). No women had falls of systolic BP to <100 mmHg at any stage. In women who ambulated (n = 15 per group) BP & pulse rate showed no differences from pre-ambulation values (analysis of variance). Women in the control group (n = 15) experienced no significant BP changes when ambulating but a transient significant increase in pulse rate (84 to 104, $p<0.001$) was observed on standing. No women became symptomatic during ambulation. **Conclusion:** Although initial reductions in BP may occur with epidural analgesia during labour, cardiovascular mechanisms to maintain BP during ambulation are not affected by the CSE or LDI technique. Cardiovascular stability is not compromised during ambulation with these low dose epidurals. **Reference:** 1. Shennan et al.(1995). Blood pressure changes during labour & whilst ambulating with combined spinal epidural analgesia. Br J Obstet Gynaecol 102:192-197.