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(Poster 22)

**THE EFFECTS OF INTRATHECAL EPINEPHRINE ON CSE LABOR ANALGESIA** *D'Angelo, R.; Poss, M.; Harris, L.C. Anesthesiology, Wake Forest University, Winston-Salem, NC* Although intrathecal (IT) epinephrine (epi) 200µg significantly prolongs labor analgesia (analg) from IT bupivacaine (bupi) and sufentanil (suf), motor block (MB) may also be produced.<sup>1</sup> This study determines the dose of IT epi that prolongs labor analg but minimizes MB. Following IRB approval and informed consent, 57 healthy nulliparous parturients were randomized by double blinded design to receive IT bupi 2.5mg and suf 5µg plus either 0, 25, 75 or 200µg of epi using a CSE technique. Pain relief, side effects and duration of analg were monitored from the time of study drug injection until the patient requested additional analg, at which time epidural lidocaine was administered. Data were analyzed by ANOVA and  $\chi^2$ .  $P < 0.05$  significant. While only the 200µg dose of IT epi significantly prolonged labor analg from IT bupi and suf, patients administered any dose of IT epi (25, 75 or 200µg) experienced significantly more MB than patients administered bupi and suf alone (table). Otherwise demographic variables, labor characteristics and side effects including hypotension, ephedrine use, fetal bradycardia, pruritus, nausea and sedation were similar among groups. The clinical usefulness of IT epi as a CSE adjunct remains in question. Although all doses of IT epi studied produce MB in laboring women, only 200µg significantly prolongs labor analgesia from IT bupi and suf. From these findings, a dose of IT epi that enhances labor analg while minimizing MB cannot be recommended. **Reference:** *Anesth 1997; 86:525.*

Epi Dose (µg)	-N-	IT Duration (min)	Motor Block (%)
0	15	112 ± 32	0*
25	12	110 ± 26	33
75	15	111 ± 27	33
200	15	144 ± 29*	60

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**IS A CSE TECHNIQUE BETTER THAN A STANDARD EPIDURAL TECHNIQUE FOR PARTURIENTS WITH SCOLIOSIS?** *Farragher, R.; Tsen, L.C. Anesthesiology, Perioperative & Pain Medicine, Brigham & Women's Hospital, Boston, MA* **Introduction:** Scoliosis is a complex skeletal deformity associated with lateral and rotational alterations of the thoracolumbar vertebrae. Present in approximately 1% of the population (1), it is seen 10 times more commonly in women. As the epidural space distorts with scoliosis, its identification and use for analgesic techniques can be problematic. Because the CSE technique allows for epidural space confirmation and potentially more successful analgesia (2), we speculated that this technique could result in improved labor analgesia compared to standard epidural techniques. **Methods:** After approval by the hospital's Human Research Committee, all medical records of parturients with the diagnosis of scoliosis during the years 1995-2000 were evaluated. Data on maternal and fetal characteristics, the nature of the scoliosis, and the placement and function of the analgesic technique were collected. Analgesic success was defined as no additional medicines being given for the first 30 minutes following a standardized initial dose. **Results:** Thus far, 34 of 108 parturients have been evaluated; 30 and 4 had epidural and CSE techniques, respectively. In the epidural and CSE groups respectively, 5 and 1 patients ( $P=0.55$ ) had inadequate analgesia and 3 and 0 ( $P=NS$ ) had catheters replaced. No significant differences were observed in maternal and fetal demographics between the two groups. **Conclusions:** Our preliminary findings do not suggest that the CSE technique is more efficacious than a standard epidural technique in the provision of labor analgesia in patients with scoliosis. **Reference:** *Bunnell WP. Clin Orthop 1988;229:20-5. ARawal N, Holmstrom B, Crowhurst JA, Van Zundert A. Anesthesiol Clin North America 2000;18:267-95.*

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(Poster 24)

**ANALGESIC EFFICACY OF BUTORPHANOL IN FEMALE VERSUS MALE RATS.** *Kuczkowski, K.M.<sup>1</sup>; Tsang, B.K.<sup>2</sup> 1. Anes, Univ CA, San Diego, CA; 2. Anes, Univ MS, Jackson, MS* **INTRODUCTION:** Systemic butorphanol (1), but not intrathecal (IT) butorphanol (2), has been reported to have more analgesic effect in the female gender; this may have important implications for OB anesthesia. The purpose of this study was to further explore this question with intraperitoneal (IP) butorphanol in female versus male rats. **METHODS:** Following IRB approval, 15 female and 15 male Sprague-Dawley rats were separately and randomly assigned to two groups to receive a single IP dose of either saline (N=7) or butorphanol (0.03 mg/kg, N=8). Visceral analgesia was assessed by the acetic acid abdominal-stretching assay (0.6% acetic acid, 10 ml/kg, IP). After the administration of acetic acid, the rats were observed for (1) time to first characteristic stretching (writhe) and (2) the total number of writhes within 30 minutes, as measures of pain. Data were analyzed with ANOVA and Student-Newman-Kuels tests.  $P < 0.05$  was significant. **RESULTS:** The time of the first writhe in the female saline group was  $5.2 \pm 0.3$  min, and was significantly sooner than the females in the butorphanol group ( $17.4 \pm 3.6$  min). Similarly, the first writhe occurred sooner in the male saline group than in the male butorphanol group ( $7.7 \pm 1.3$  vs  $21.0 \pm 1.2$  min). The total number of writhes in the female butorphanol group was  $14 \pm 5$ , and was significantly fewer than in the female saline group ( $93 \pm 11$ ). Similarly, the male butorphanol group had fewer writhes than the male saline group ( $5 \pm 3$  vs  $27 \pm 7$ ). Both treated groups did not differ in the time of the first writhe and the total number of writhes. **DISCUSSION:** These results suggest that IP butorphanol has equal analgesic effect in female and male rats. Our previous study has shown IT butorphanol exhibits no gender difference in analgesic efficacy. We conclude that systemic butorphanol is equally effective for pain control in both genders. **Reference:** 1. *Nature Medicine 1996, 2:1248-50.* 2. Unpublished data