SOAP ABSTRACTS

A93 (Poster 52)

Title: FACTORS ASSOCIATED WITH POSTPARTUM UTERINE PAIN

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INTRODUCTION: It is commonly believed that postpartum uterine cramp pain is more severe in multiparous than primiparous women though this fact is often stated without adequate references. (1) Little attention has been paid to postpartum uterine cramp pain though it may be a cause of significant maternal discomfort. (2,3)

METHODS: After IRB approval, women were surveyed one day after vaginal delivery. Survey included: Severity of usual menstrual pain and current uterine pain with comparison to uterine pain from previous delivery, and breastfeeding data. Charts were reviewed to obtain obstetric, demographic and anesthetic data. Statistical analysis included *t-test*, *Mann Whitney-U*, correlation, χ^2. $P < 0.05$ was significant.

RESULTS: We have complete data from 135 (61 primip, 74 multip) women to date. The average pain score was 3.8 ± 2.4. 24.4% described severe pain (≥ 6). Primiparity and use of oxytocin or epidural were associated lower pain scores.

Groups	Primip/Multip	Oxy +/ Oxy -	Epi +/ Epi -
Pain score	2.6 / 4.7	3.4 / 4.3	3.6 / 5.3
P	<0.001	0.025	0.006

Multiparous women were more likely to have pain score ≥ 6 (33.8% vs. 13.1%, $p<0.01$). Women who had instrumental delivery had lower pain scores, although this did not reach significance (2.8 ± 2.3 vs. 3.9 ± 2.4). Those who breast fed did not have more over-all pain (3.8 ± 2.4 vs. 3.9 ± 2.4), but 77% said that pain increased during feeding. Maternal age, fetal weight, and severity of menstrual pain were not associated with uterine pain.

DISCUSSION: Our results demonstrate that post-partum uterine cramping causes severe pain in a significant number of women, and that multiparity is associated with more pain. Inadequate, inherent uterine function may explain the association between oxytocin use and low post-partum cramping pain. The lower pain scores after epidural use may indicate the effect of pre-emptive analgesia, although additional study is needed to substantiate this.

REFERENCES: 1) Williams Obstetrics, 19th ed. Pg. 467. 2) Pharmacotherapy. 1986; 6:247-52. 3) Toxicol Appl Pharm. 1971; 19(3):546-53,.

A94 (Poster 53)

Epidural Bolus Requirement Is A Measure of Maternal Labor Pain Severity

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INTRO: The severity of labor pain varies between parturients.[1] Several characteristics have been associated with more severe labor pain, including younger maternal age, greater maternal BMI, greater fetal weight, nulliparity, oxytocin use, and early onset of pain.[1-4] During epidural analgesia, some women require frequent boluses to treat breakthrough pain. This may be due to excessive labor pain; however, no method exists to evaluate pain once an epidural has been placed. We investigated whether the factors known to be associated with severity of maternal pain would be predictors of breakthrough pain during epidural analgesia.

METHODS: After IRB approval, we prospectively collected data from 2131 parturients who received an ultra-low dose epidural analgesia. Patients were categorized by the success of their analgesic: Low Breakthrough Pain (LBP) group received 0 to 2 boluses (n=2111), High Breakthrough Pain (HBP) group received 3 or more boluses (n=260). T-test used for comparison of means, chi-squared used for frequencies. $p<0.05$ considered significant. Multivariate logistic regression analysis was used to identify independent predictors for the HBP group.

RESULTS: The HBP group was younger (30.4±5.3yr v. 31.1±5.3yr), heavier (BMI=30.5±4.6 v. 29.8±4.6), had greater fetal wgt (3610gm±485 v. 3462±470gm), were more likely nulliparous (73.6% v. 48.6%), and to receive oxytocin (83.9% v. 57.3%). The HBP group was admitted and received an epidural at a lesser cervical dilation, and had lesser cervical dilation rates before placement. By multivariate analysis, the factors associated with HBP were Nulliparity OR= 2.5; Fetal weight OR= 2.2per kg; Oxytocin OR= 2.5; Dilation at placement OR= 0.3 per cm.

DISCUSSION: The factors that are known to be associated with maternal labor pain are predictors of breakthrough pain during epidural analgesia. Maternal pain, therefore, is a primary cause of breakthrough pain. Epidural requirements measure the severity of maternal labor pain. The four independent factors which influence epidural requirements may need to be considered when placing an epidural catheter for analgesia, as a higher dose may be required.

[1]Can.Med.Assoc.J. 1984; 130: 579-84; [2] Anesth 1999; suppl.: A64; [3]J.Behav.Med. 1997; 20: 127-42; [4] Soc.Sci.Med. 1984; 19: 1347-51

A95 (Poster 54)

Micro-dose Intrathecal Morphine And Rectal Diclofenac For Postcaesarean Analgesia

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Introduction: Lower doses of intrathecal morphine for postcaesarean analgesia are associated with less side effects.[1,2,3] In addition, the morphine-sparing effect of NSAIDS has led to a multimodal approach where even lower doses of 100ug or less of intrathecal morphine can be used. [4] Based on the study by Cardoso et al and preliminary studies in our institution, we wanted to explore the efficacy of micro doses in the less than 100 ug range when used in combination with rectal diclofenac.

Methods: Following ethics committee approval and informed consent, 48 ASA I or II patients scheduled for elective caesarean section under spinal anaesthesia were prospectively randomized to receive either a saline control, 15, 30 or 60 ug of intrathecal morphine at the time of spinal anaesthesia. At the end of the operation, they received rectal diclofenac 100 mg and a second similar dose 10 hr later. Any supplementary analgesia required was provided by IV morphine administered by patient controlled analgesia (PCA) pump. Patients were then followed up for 24 hr by a blinded observer for pain scores, side effects and satisfaction with analgesia.

Results: The control group required significantly more IV morphine (17.5 mg±12.4) in PCA compared with the three groups which received intrathecal morphine (4.3±7.2, 4.3±5.6, 3.8±5.2 mg, $p<0.01$). Among the three intrathecal morphine groups, there was no difference in mean dose of PCA morphine required ($p>0.05$). Nausea, vomiting, pruritus, satisfaction scores and median time to activation of PCA were also not different among all groups. Pain scores although consistently higher in the control group were not significantly different amor.g all groups.

Discussion: Use of rectal diclofenac can decrease the effective dose of intrathecal morphine as low as 15, 30 and 60 ug with no significant differences in supplementary PCA IV morphine requirements or side effects. The parenteral morphine-sparing effect of this regimen is significant.

References

1. Palmer CM et al. Anesthesiology. 1999 Feb;90 (2):437-44.
2. Yang T et al. Can J Anesth 1999 /46:9 / p 856-860
3. Gerancher JC, Floyd H, Eisenach J. Anesth Analg 1999;88:346-51
4. Cardoso MM et al. Anesth Analg. 1998 Mar;86(3):538-41

A96 (Poster 55)

Effects of Systemic Ketorolac on Intrathecal Morphine Induced Scratching and Antinociception in Monkeys

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PURPOSE: Pruritus is reported to be the most common side effect of intrathecal morphine (ITM), and may adversely effect maternal satisfaction. The NSAID tenoxicam was reported to reduce the incidence and severity of pruritus following epidural fentanyl (1). The aim of this study was to investigate the effects of the NSAID ketorolac on ITM induced scratching and antinociception in a primate model previously reported. (2, 3)

METHODS: Eight rhesus monkeys were studied. The dose response of ITM (0-320µg) was established in 4 monkeys (group 1). Scratching responses were videotaped and counted by observers blinded to experimental conditions. Antinociception was measured by a warm water (50°C) tail-withdrawal assay in 4 monkeys previously trained in the assay (group 2). Group 1 received 32µg ITM plus IM ketorolac (0, 0.32,1,3.2, & 10mg/kg); group 2 received 32µg ITM and IV ketorolac (0,1,3.2, and 10mg/kg) to assess ketorolac's effect on antinociception and ITM induced scratching.

RESULTS: ITM (1-320µg) increased scratching in a dose-dependent manner. IM or IV ketorolac did not attenuate scratching responses in any subject. Data from 1 subject in each group are presented in figures 1 & 2. The highest does of IV ketorolac, 10mg/kg, slightly potentiated intrathecal induced morphine antinociception in only two subjects.

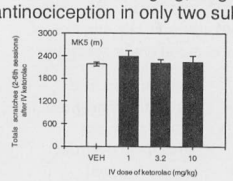

Figure 1

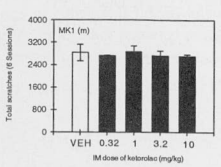

Figure 2

CONCLUSIONS: Systemic ketorolac did not have an effect on the scratch response. NSAIDS may not be useful theraputic agents to treat IT opioid induced itch. It is unlikely prostaglandins play a significant role as mediators of centrally initiated itch associated with ITM under these experimental conditions.

REFERENCES: 1) Anaesthesia 1999; 54: 76-80, 2) Anesthesiology April 1999; S(A20), 3) Anesthesiology March 2000 (in press).