SOAP ABSTRACTS

A77 (Poster 36)

Does IT Fentanyl Affect IT Morphine Analgesia after Cesarean Delivery?

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Introduction: Intrathecal (IT) fentanyl improves analgesia during spinal anesthesia for cesarean delivery (C/D).(1) However, neuraxial fentanyl may or may not increase patient demand for post-operative IV opioids.(1,2,3) We determined whether IT fentanyl affects IT morphine analgesia after C/D.

Methods: 11 healthy parturients for elective C/D consented to participate in this IRB-approved study. Patients carried healthy singleton fetuses and had had < 1 prior C/D. Patients received 1.5 L IV fluid and sat during spinal injection. In a randomized, double-blind manner, we injected spinally either fentanyl 20 mcg (n=5) or sterile water 0.4 mL(n=6) plus hyperbaric bupivacaine 12.5 mg and preservative-free morphine 0.2 mg. We collected intraoperative pain visual analog (VAS) scores . Patients with pain received fentanyl 25 mcg IV q 3 min and patients with nausea received droperidol 0.625 mg IV or metoclopramide 10 mg. Post-operatively, patients received IV-PCA morphine (1 mg q 6 min) We recorded pain, pruritus, and nausea VAS and PCA usage at 4, 8, 12, and 24 hours after spinal injection. Patients did not receive acetaminophen or NSAIDs during the first 24 hours.

Results: Age, height, weight, block height, surgery length, and nausea and pruritus scores did not differ. The patients receiving fentanyl used more IV-PCA morphine than those without at 12 hrs [15.0$\pm$3.0 vs. 3.8$\pm$7.1 mg, $p \leq 0.05$] and 24 hrs [45.8$\pm$24.3 vs 18.8$\pm$21.3 mg, $p = 0.08$]. VAS pain scores were significantly greater in the fentanyl group at 8 and 12 hrs ($p \leq 0.05$).

Discussion: Patients receiving IT fentanyl-morphine had more pain and used more PCA morphine than those receiving IT morphine only. We theorize that the IT morphine is not effective because it is not binding to the spinal opioid receptors which are occupied by the concurrently administered IT fentanyl.

References: 1.Br J Anaesth 1997;78:311-3. 2.Reg Anesth 1991;16:141-9. 3.Anesth Analg 1992;74:658-63.

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Comparison of Epidural Catheter Activation in Women Undergoing Primary and Repeat Cesarean Section under Combined Spinal Epidural Anesthesia

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Introduction: Combined spinal epidural anesthesia (CSE) for cesarean section is becoming much more popular because it provides a dense block and rapid onset of a spinal anesthetic while allowing for supplementation of the block via an epidural catheter. However, CSE is more time-consuming and costly and may be unnecessary for many healthy patients undergoing elective Cesarean section. The aim of this study was to determine the extent to which spinal anesthesia alone would be adequate for primary and repeat Cesarean sections.

Methods: A retrospective review of all computerized operating room records at our institution for calendar year 1999 was undertaken. The following data were collected - indication for Cesarean section, primary or repeat Cesarean section, type of anesthesia, duration of surgery, adequacy of level of block, necessity for use of the epidural catheter in cases given CSE, necessity for induction of general anesthesia.

Results: 2020 cases of elective Cesarean section were performed in 1999. Among cases of healthy women undergoing primary Cesarean section, no woman given CSE required activation of the epidural catheter, and no woman given spinal anesthesia (one-shot spinal) for her Cesarean section needed conversion to general anesthesia. However, among women undergoing repeat Cesarean section, 6 of the 32 women (19%) given CSE required activation of the epidural catheter, and 2 of the 116 women (2%) given one-shot spinals needed conversion to general anesthesia.

Discussion: The use of CSE for elective Cesarean section has numerous advantages. Many believe that its strongest advantage is its ability to extend the block should the duration of surgery outlast the duration of the spinal anesthetic. It appears from these data, however, that this advantage may be limited to women requiring repeat Cesarean sections.

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Naproxen and Epidural Morphine for Perineal Pain after Forceps Delivery

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Introduction: Perineal pain after vaginal delivery is common, and pain intensity and duration increase with the degree of perineal trauma.[1] Maternal soft tissue injury is a recognised complication of forceps assisted vaginal delivery.[2] Epidural morphine (EM) for analgesia after episiotomy is effective, particularly when given before the onset of pain.[3] However maternal side effects (pruritus, nausea, vomiting) occur frequently.[4] These side effects can be minimised by reducing the dose of EM, but at the cost of decreased analgesia. The purpose of this study is to determine if a combination of low dose EM and a non-steroidal anti-inflammatory drug improves quality of analgesia and reduces the side effects, compared to EM alone.

Methods: This prospective randomised triple blind trial has IRB approval. After informed consent, women with epidural analgesia and forceps delivery are randomised to receive: EM 1mg + rectal naproxen 500mg (group1); EM 2mg + rectal naproxen 500mg (group 2); EM 1mg + rectal placebo (group 3); EM 2mg + rectal placebo (group 4). Pain is measured by VAS at 2,4,6,8,10,12,24 hrs, and the presence and severity of side effects is assessed at 24 hrs. Data recorded: type of forceps delivery, episiotomy or tear, and pain score 6 wks postpartum.

Analysis: The primary outcome is pain VAS at 12 hrs. With a two way factorial design, a sample size of 23 per group is calculated to detect a difference in pain VAS of 20mm between groups with 80% power (α=0.05).

Results: To date we have studied 16 subjects. Data will be analysed after all patients have been enrolled.

Discussion: The addition of an NSAID to EM provides superior analgesia after Caesarean delivery.[5] However no studies have investigated these two treatment modalities given in combination, pre-emptively for perineal pain.

References:
1. Macarthur et al., Am J Obstet Gynecol 1997; 176: S121
2. Johanson et al., The Cochrane Library, Volume 4, 1999
3. Niv et al.,Clinical Journal of Pain 1994; 10: 319-323
4. Macdonald et al., British Journal of Anaesthesia 1984; 56: 1201-1205
5. Sun et al., Anesthesia and Analgesia 1993; 76: 284-288

A80 (Poster 39)

Perinatal Outcome of Pregnant Women Receiving High Dose Low-Molecular Weight Heparin

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During pregnancy low molecular-eight heparins are commonly used in low doses for prevention of recurrent thrombosis or for prevention of pregnancy loss in women with antiphospholipid syndrome. Our group is now using low-molecular weight heparin in high doses, for primary and maintenance anticoagulation in pregnant women with acute thromboembolism, as well as a substitute for warfarin in women with specific cardiac conditions. We report the perinatal outcome of women receiving high doses of low-molecular weight heparin.

We treated hemodynamically stable patients with acute thromboembolism and cardiac patients with enoxaparin sodium. All nonmorbidly obese patients were initially treated with 1 mg/kg/Q12H. Doses were adjusted to achieve peak anti-Xa concentrations of approximately 0.7 U/mL and trough anti-Xa concentrations of greater than 0.3 U/mL. We collected data on maternal demographics, medical and obstetrical histories, anti-Xa concentrations, pregnancy outcome, mode of delivery, type of anesthesia, and obstetrical and/or anesthesia-related complications.

Six patients were treated in the antepartum period with high dose enoxaparin sodium. Four patients had acute thromboembolism (3 DVT, 1 PE), one patient had a mural thrombus after an acute MI, and one patient had mitral valve disease and atrial fibrillation. One patient terminated her pregnancy. Three patients required unplanned preterm cesarean deliveries because of obstetrical complications (2 fetal distress, 1 preterm labor/breech) and received general anesthesia. The two remaining patients had scheduled inductions at term and received epidural anesthesia. Both of these patients demonstrated decreased enoxaparin metabolism after 32 weeks and had measurable anti-Xa activity 24-26 hours after their last dose of enoxaparin sodium prior to induction. There were no anesthesia-related complications.

In this small series, high doses of low-molecular weight heparin were clinically effective. Similar to standard unfractionated heparin, it appears that metabolism of low-molecular weight heparin during pregnancy, decreases significantly near term. The ASRA has recommended that a regional anesthetic not be given to patients receiving high doses of low-molecular weight heparin unless 24 hours have elapsed after a subcutaneous dose. Based on these data, we feel that an interval of greater than 24 hours is necessary prior to use of regional anesthesia in pregnant women receiving high dose low-molecular weight heparin.