A57 (Poster 16)

Oral Clonidine: Use with Intrathecal Morphine for Post-cesarean analgesia

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Oral clonidine has also been shown to decrease analgesic requirements following total knee arthroplasty[1]. The purpose of this study was to determine if oral clonidine augments analgesia from intrathecal morphine following cesarean delivery.

Sixty ASA I and II term parturients undergoing non-urgent cesarean delivery under spinal anesthesia gave written informed consent and were enrolled in this randomized, double-blind study. Subarachnoid anesthesia was performed with hyperbaric bupivacaine 12.75 mg, fentanyl 15 μg, and morphine 0.15 mg. Upon arrival in PACU after surgery, patients in the treatment group received oral clonidine 0.1 mg PO, and a second dose 12 hrs later; the control group received an oral placebo at the same intervals. All patients received a PCA pump for 24 hrs postoperatively which administered IV morphine (1.5 mg q 8 min, on demand only) to augment their analgesia if necessary. 24-hr PCA use, and the occurrence of side effects (sedation, hypotension, nausea, pruritus) were recorded for 24 hrs post-operatively. Data were analyzed with student's t-test, Chi-square, and ANOVA as appropriate.

Groups were similar demographically. There was no difference between groups in 24 hr PCA morphine use (25 +/- 4 *vs* 31 +/- 5 mg, clonidine *vs* placebo, mean +/- SEM, *p*=NS). There was no difference between groups in the incidence of hypotension (only 1 patient of 60 required treatment), sedation, nausea, pruritus, or the need for treatment of side effects.

Oral clonidine, 5 μg/kg q 12 hrs, has been shown to decrease analgesic requirements following orthopedic surgery[1]; the dose used in this study (0.1 mg q 12 hr) is much lower (<2 μg/kg), but was chosen to avoid hypotension and sedation which *might* be seen at higher doses. It is possible that a higher dose of oral clonidine is necessary for systemic analgesic effects.

References 1. Park J, et al. Can J Anaesth 1996;43:900-906.

A58 (Poster 17)

CRITICAL ILLNESS IN PREGNANCY IN AN INNER CITY HOSPITAL

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Introduction: Critically ill pregnant patients present a unique challenge to the treating physicians. This retrospective chart review of pregnant patients admitted to Labor & Delivery ICU (LD-ICU) was undertaken to delineate the causes and severity of illness (by APACHE II Score).

Methods: The LD-ICU is co-managed by anesthesia and obstetrics faculty. Additional specialists were consulted as needed. The medical records of 185 patients admitted between Jan 92 and Jan 2000 were reviewed. BTGH is a county hospital caring for inner city indigent population. Approximately 40% of pregnancies were considered to be high risk patients.

Results: 185 women out of 40,000 were admitted to ICU. Overall ICU utilization was 0.45%. The predicted mortality risk studied in 90 patients was 15% (calculated by APACHE II) Four patients died. Mortality rate was 2.1%.

LD-ICU n=185

Condition		Number
Hypertension	Preeclampsia	63
	Eclampsia	27
	HELLP	20
Cardio-Pulmonary	Valvular disease	5
	Pulmonary edema	22
	Asthma	6
	Pneumonia	4
Hemorrhage	Post C/S Hysterectomy	33
	Uterine rupture	5
	Placental abruption	5
	Placenta previa	6
Sepsis	Chorioamnionitis	8
	Pyelonephritis	10
		*total=220

* Patients had several diagnosis at time of admission.

Conclusions: The chart review indicated that many patients had multiple complicating illnesses. Mortality rate was low. However, efforts to decrease the morbidity and mortality are needed. The validity of APACHE II score in risk stratification of pregnant patients is questionable.

A59 (Poster 18)

Introduction Of An Ultra-Low Dose Labor Epidural Solution: Impact On Obstetric Outcome - S. J. Reid, MB.BS. C. Wong MD. D. Mayes M.Sc, Depts. of Anesthesiology and Obstetrics/Gynecology, Grey Nuns Hospital, University of Alberta, Edmonton, AB, Canada. INTRODUCTION: The association between labor epidural analgesia and instrumental delivery is controversial. (1) Motor block may increase fetal malposition and impair maternal expulsive effort. (2) Ultra-low dose epidural solutions provide effective analgesia for normal labor (3) with minimal motor block. (4) All anesthesiologists at our institution converted to an ultra-low dose solution for labor analgesia. We investigated the impact on obstetric outcome. METHODS: After ethics committee approval, from Oct. 1, 1997 to Jan. 31, 1998 all term parturients with a single vertex fetus, requesting epidural analgesia, received an ultra-low dose solution. (study group) The records of all parturients fulfilling the inclusion criteria who had received epidural analgesia between June 1, 1997 and Sept. 30, 1997, were reviewed. (control group) Both groups received a test dose of 3cc 1.5% lidocaine, 5 mcg/cc epinephrine. The study group received 15 cc of 0.04% bupivacaine, fentanyl 2 mcg/cc, epinephrine 2 mcg/cc; followed by an infusion of the same solution at 12-15 cc/hr. The control group had received 10cc of 0.125% or 0.25% bupivacaine, fentanyl 2 mcg/cc followed by an infusion of 0.1% or 0.125% bupivacaine, fentanyl 2 mcg/cc at 12 cc/hr. Demographic data and obstetric outcomes were recorded. RESULTS: 314 parturients were included in the study group and 369 in the control group. Demographic variables did not differ between the groups. (Table 1) Obstetric outcomes are shown below. (Table 2) DISCUSSION: Introduction of an ultra-low dose epidural solution was associated with a significant decrease in the incidence of instrumental delivery, with no change in the C/section rate. A further randomised study is warranted. REFERENCES: 1. JAMA 1998; 280: 2105-10 2. Chestnut D.H. Obstetric Anesthesia Principles 3. SOAP Abstract 1997 4. Anesth. Analy 1993; 77 919-24

Table 1

Group	n	Nulliparous	Gestn. (wks)	Birth Wt (g)
Study	314	58%	39.3	3457
Control	369	54%	39.4	3496

Table 2

Group	Instrumental Delivery	C/Section
Study	14.4%*	13.8%**
Control	28.1%	15.4%

* odds ratio 0.43 (CI 0.29, 0.62)
** odds ratio 2.75 (CI 1.35, 5.6)

A60 (Poster 19)

Combined Spinal Epidural vs. Epidural Analgesia: Part 2: Obstetric Outcome

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Introduction: Combined spinal epidural (CSE) labor analgesia has been associated with faster cervical dilation[1] and fewer forceps deliveries[2] compared with epidural analgesia. This study further examines the impact of these two techniques on labor progress and outcome.

Methods: This protocol was approved by our Human Studies Committee. A random number generator assigned either CSE or epidural analgesia to each day between August 1, 1997 and January 11, 1998. Parturients consenting to the study received that day's randomly determined analgesic technique (table 1). Neither the patient nor her obstetrician was aware of the assigned technique.

Table 1: Protocol for induction and maintenance of labor analgesia

Technique	Induction-early labor	Induction-advanced labor	Maintenance
CSE	Intrathecal (IT) sufentanil 10 μg	IT sufentanil 10 μg + IT bupivacaine 2.5 mg	0.083% bupivacaine + 0.33 μg/mL sufentanil @ 12 mL/hr
Epidural	10 mL 0.125% bupivacaine + sufentanil 10 μg	15-20 mL 0.125% bupivacaine + sufentanil 10 μg	

Results: All patients (p = NS).

Technique	Median (IQR) 1st Stage Labor (min)	Median (IQR) 2nd Stage Labor (min)	Mode of Delivery (%) SVD	Instrumented	Cesarean
CSE (n = 471)	605 (589)	30 (49)	69	16	15
Epidural (n = 534)	600 (529)	32 (47)	73	15	12

Nulliparous patients (p = NS)

Technique	Median (IQR) 1st Stage Labor (min)	Median (IQR) 2nd Stage Labor (min)	Mode of Delivery (%) SVD	Instrumented	Cesarean
CSE (n = 212)	685 (641)	47 (50)	57	24	19
Epidural (n = 213)	725 (583)	50 (68)	68	20	17

Discussion: When using a dilute local anesthetic/opioid mixture, obstetric outcomes are similar with either CSE or epidural labor analgesia.

References: 1. Tsen LC, et al. Anesthesiology 1999;91: 920. 2. Nageotte MP, et al. New Engl J Med 1997; 337:1715.