

A71

PATIENT-CONTROLLED EPIDURAL ANALGESIA VS. CONTINUOUS INFUSION FOR LABOR PAIN. A META-ANALYSIS *Van der Vyver, M.J.; Halpern, S.H.; Joseph, G. Anaesthesia, Sunnybrook and Women's College Health Science Centre, TORONTO, ON, Canada*

Introduction: Patient controlled epidural analgesia (PCEA) is a new technique for maintaining labor analgesia. The purpose of this meta-analysis is to compare anesthetic and obstetrical outcomes in patients receiving PCEA and continuous infusion (CI). **Methods:** A structured search of electronic databases and hand searches were performed in duplicate to retrieve all randomized controlled trials (RCT) that compared PCEA without background infusion to CI. Each article was rated for quality (1). The primary outcome was the number of patients that required clinician interventions. Secondary outcomes included local anesthetic dose, motor block, maternal satisfaction, obstetric and neonatal outcomes. Dichotomous and continuous data were combined using odds ratio (OR) and standard mean difference (SMD) respectively using the random effects model. The results were considered statistically significant if the 95% CI excluded 1 (OR) or 0 (SMD). **Results.** See table. *P<0.05, **P=0.05 **Conclusion.** PCEA reduces the number of clinician interventions compared to CI and reduces local anesthetic dose. There was a strong trend to reduced motor block. There was no difference in obstetric or neonatal outcomes. **Reference:** 1. Judad A. Controlled Clinical Trials 17: 1-12

Outcome	N (Rx and control)	Effect Size	95% CI	Group favored
No interventions	222	3.78 (OR)	1.94 to7.34*	PCEA
Local anesthetic dose	358	1.02(SMD)	1.45 to0.59*	PCEA
# of pts/ no weakness	133	1.95 (OR)	1.00 to3.81**	PCEA
VAS maternal satisfaction	283	0.33(SMD)	-0.30 to0.96	PCEA
C/S rate	517	0.67 (OR)	0.4 to1.12	PCEA
Low Apgar 1 minute	298	1.17 (OR)	0.48 to2.86	CI

A72

MAGNESIUM SULFATE AND HYPOXIA: EFFECTS ON PREGNANCY OUTCOME AND FETAL NEUROCHEMISTRY OF NEARTERM GUINEA PIGS *Punnabitananda, S.; Grubbs, E.G.; Flanagan, E.M.; Wang, Y.; Reynolds, J.D. Anesthesiology and Surgery, Duke University, Durham, NC*

Introduction: The present study continues our investigation into the fetal effects of magnesium sulfate (MgSO₄) exposure during pathophysiologic insult. In this case, the focus was on pregnancy outcome and change in fetal brain glutamate NMDA receptor populations, an obvious target site for Mg's potential neuroprotective actions, following hypoxia. **Method:** After obtaining IACUC approval, time-dated pregnant guinea pigs were bred in-house. At gestational day 58 (term, about 68 days), dams were assigned to one of six treatment groups: saline (S, n=8); saline+hypoxia (SH, n=8); low dose MgSO₄ (0.3 mg/kg; LMg, n=7); low dose MgSO₄+hypoxia (LMgH, n=8); high dose MgSO₄ (0.75 mg/kg; HMg, n=9); and high dose MgSO₄+hypoxia (HMgH, n=17). Treatments were injected sub-cu at 8-h intervals for 5 days. These MgSO₄ regimens produce maternal blood [Mg²⁺] in the low to moderate human therapeutic range; peak occurs about 3h after injection. As such, 3h after the first injection on day 3, animals in the hypoxic groups were placed for 1h in a plexiglass chamber aerated with 7% O₂/5%CO₂ (hypoxia) or room air. On day 5 animals were euthanized and the fetal brain regions prepared for in vitro receptor binding studies. **Results:** Out of 57 animals studied, 1 in the HMg and 4 in the HMgH group died prior to the end of the study. In addition, 7 out of the surviving 13 in the HMgH group prematurely delivered. No other treatment group had more than 1 premature delivery. With respect to the in vitro study, hypoxia reduced NMDA receptor populations in the fetal brain and preliminary results indicate that this reduction may be reversed by MgSO₄ exposure. The analysis is ongoing. **Conclusion:** Preliminary results from this guinea pig study are consistent with our previous investigations: they suggest that MgSO₄ exposure during insults such as hypoxia may have both deleterious and protective effects on the fetus.