26346 - PATIENT CONTROLLED ANALGESIA WITH REMIFENTANIL FOR LABOR PAIN

Mrinalini Balki MD, Shilpa Kasodekar, MD; Sudhir Dhumne, MD; Paul Bernstein, Jose Carvalho, MD, PhD; Mount Sinai Hospital, University Of Toronto, Toronto, ONTARIO, Canada

INTRODUCTION: Although epidural is the gold standard for labor analgesia, it may not be indicated or chosen by some patients. Intravenous remifentanyl is currently being investigated as an alternative to labor epidurals.^{1,2} The purpose of this study was to determine the efficacy and safety of different regimens of patient-controlled analgesia (PCA) with remifentanyl.

METHODS: With REB approval, a prospective, randomized controlled trial was conducted in 14 term parturients (target 20 patients). Patients were randomized to one of 2 study groups. In both groups, analgesia was started with remifentanyl infusion 0.025 mg/kg/min and patients were offered PCA bolus of 0.25 mg/kg, with a lockout interval of 2 min. In Group 1 (fixed bolus, increasing infusion), infusion was increased in a stepwise manner from 0.025 to 0.05, 0.075, 0.1 mg/kg/min as required; bolus was fixed at 0.25 mg/kg. In Group 2 (fixed infusion, increasing bolus), the bolus was increased from 0.25 to 0.5, 0.75 and 1 mg/kg as necessary; infusion was fixed at 0.025 mg/kg/min. The primary outcome was maternal satisfaction (VAS 0-10). The secondary outcomes were pain, sedation, remifentanyl consumption and side effects.

RESULTS: There was no difference in maternal demographics and obstetric data between the 2 groups. The overall satisfaction, pain and sedation scores were similar in both groups. Maternal side effects were more frequent in Group 2. One neonate in Group 1 required intubation for meconium aspiration. Other data are presented in the table.

DISCUSSION: Patients in both groups were highly satisfied irrespective of relatively high pain scores. This discrepancy could reflect high patient motivation or perhaps altered pain perception in patients choosing remifentanyl for labor analgesia. Patients in Group 1 seemed to have more effective pain control, as they had more successful PCA attempts and required less amount of drug/h compared to Group 2. As a consequence, side effects such as drowsiness and desaturation were less frequent in this group.

Therefore, the regimen with increments in continuous infusion in the presence of fixed bolus appears to be superior to the regimen with increments in boluses in the presence of fixed infusion. We conclude that remifentanyl is safe for mother and neonate, when administered in an appropriate manner.

REFERENCES:

1. Br J Anaesth 2001; 87: 415-20
2. Anesth Analg 2002;94: 913-7

OUTCOME AND COMPLICATIONS

	Group 1 N = 7	Group 2 N = 7
Satisfaction score (0-10)	8.71± 0.95	9.14± 0.90
Pain score (0-10)		
Baseline	7.43±2.99	8.14±2.54
Overall during PCA	5.29±1.50	6.57± 1.62
Lowest pain	3.14±2.61	2.00±2.52
Duration of PCA (h)	5.54±2.25	9.36±9.02
Remifentanyl requirement (µg/h)	408±138	532±253
Number of PCA attempts	78±38	251±295
% Successful PCA attempts	77±9	56±31
Return to previous step n (%)	0 (0)	1 (14)
Crossover to epidural n (%)	1 (14)	0 (0)
Desaturation n (%)	1 (14)	4 (57)
Drowsiness n (%)	2 (29)	7 (100)
Nonreassuring FHR n (%)	1(14)	2 (29)
Apgar score $\square$ 7 at 1 & 5 min n (%)	7 (100)	7 (100)