

**PE-60. REMIFENTANYL IN OBSTETRIC ANESTHESIA ñ A REASONABLE ALTERNATIVE TO REGIONAL ANESTHESIA?**

Leicht, C.H.; Velickovic, I.A.

Department of Anesthesiology, The Western Pennsylvania Hospital, Pittsburgh, Pennsylvania

Remifentanyl is relatively new  $\mu$ -opioid receptor agonist that is rapidly hydrolyzed by nonspecific tissue and blood esterases. A parturient with severe cardiac disease or bleeding disorder may not be a candidate for regional anesthesia. There are very few reports on the use of remifentanyl for labor analgesia and results are contradictory. Suggested protocols include continuous infusion of 0.05-0.1 mcg/kg/min, with or without intermittent boluses of 25-100 mcg, and lock out intervals of 2-5 min. A 20 year old, 66 kg, gravida 3, para 2, woman with single gestation was admitted at 37 weeks with ruptured membranes with a 2 year history of presumed ITP. She presented with a platelet count of 53,000 and by the time she requested labor analgesia, her platelet count had dropped to 46,000. A remifentanyl patient controlled analgesia (PCA) was started with bolus of 50-mcg and lockout interval of 5 minutes. Almost complete analgesia was obtained (VAS 3/10) until full cervical dilatation. At that time, she complained of inadequate analgesia (VAS 8/10). Intermittent boluses of 50-75 mcg of remifentanyl were given at the discretion of the anesthesiologist during the second stage of labor (VAS 4/10). A female infant was delivered 21 minutes after the full cervical dilatation. Apgar scores (table). Due to inadequate respiratory efforts, the neonatologist administered 0.2 mg of naloxone IM, 4 minutes after delivery. The postpartum course of mother and baby were otherwise unremarkable. The total dose of remifentanyl was 1250 mcg over 166 min. including boluses at delivery. The patient was awake, alert and responsive during the remifentanyl infusion and did not experience nausea, vomiting or desaturation. On the postoperative visit, she described analgesia as excellent throughout the labor, experienced slight to moderate pain at delivery, had full recall of the events without sleepiness. Indications for IV opioid labor analgesia include: coagulopathy, severe thrombocytopenia, sepsis, severe cardiac disease, and in some European centers, patient refusal of regional anesthesia. Continuous infusion of remifentanyl for labor analgesia requires continuous presence of the anesthesia provider, which may be difficult to achieve in most busy North American OB departments. We decided to use PCA mode for the first stage and intermittent boluses for the second stage of labor. Prior reports indicate anesthesiologist usually discontinue the remifentanyl infusion at full cervical dilatation (1), presumably to decrease the risk of neonatal respiratory depression; unfortunately this is the time at which most patients require the greatest amount of analgesia. In one report (2), when remifentanyl was continued until delivery, Apgar scores were remarkably similar to ours. (5,8 vs. 5,9). We believe that it is possible to achieve almost complete analgesia for labor with IV remifentanyl; however this may come at the expense of temporary respiratory depression in the newborn which may require naloxone for reversal. If experienced personnel are available, a combination of IV remifentanyl and pudendal nerve block may also be an option for patients who are not candidates for neuroaxial blockade. Remifentanyl may prove to be a reasonable alternative for labor analgesia in selected cases; however, regional anesthesia remains the method of choice for the majority of cases.

1. *Anaesthesia* 54:459-465:1999;2. *Am J Anesthesiol* 27(9); 553-554:2000.

Apgar score	Heart rate	Respiratory effort	Muscle tone	Reflex irritability	Color	Total
1 Min.	2	0	1	1	1	5
5 Min.	2	2	2	2	1	8