

mented with 0.1 mg bolus. The rate recommended (100 mL/hour) appears to be safe, but it is possible that the patient may require or unintentionally receive fluids at a faster rate during labor, delivery, or postpartum. Naloxone, even in small doses (100 µg), has been shown to be hazardous following systemic opioid administration.<sup>2</sup> In addition, naloxone may reverse analgesia,<sup>3</sup> or breakthrough pain may occur. Potential problems regarding naloxone administration may be lessened by "piggy-back" infusion using a well-marked burette administration set with, for example, naloxone 80 µg in 100 mL intravenous fluids. Possibly, an even safer approach is administration of a narcotic agonist/antagonist such as butorphanol tartrate or nalbuphine hydrochloride. Nalbuphine has been shown to decrease clinically significant respiratory depression<sup>4</sup> while providing some analgesia of its own.<sup>5</sup> Davies and From<sup>6</sup> reported that nalbuphine 10 mg subcutaneously resulted in significantly less pruritus following epidural fentanyl. The possibility of respiratory depression in the neonate—especially in premature infants—following systemic administration of any opiate to the parturient should be considered.

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#### References

1. Edwards RD, Hansel NK, Pruessner HT, Barton B. Intrathecal morphine as analgesia for labor pain. *J Am Bd Fam Pract* 1988; 1:245-50.
2. Prough DS, Roy R, Bumgarner J, Shannon G. Acute pulmonary edema in healthy teenagers following conservative doses of intravenous naloxone. *Anesthesiology* 1984; 60:485-6.
3. Rawal N, Schott U, Dahlstrom B, et al. Influence of naloxone infusion on analgesia and respiratory depression following epidural morphine. *Anesthesiology* 1986; 64:194-201.
4. Doran R, Baxter AD, Samson B, Penning J, Dude LM. Prevention of respiratory depression from epidural morphine in post-thoracotomy patients with nalbuphine hydrochloride. *Anesthesiology* 1987; 67:A248.
5. Henderson SK, Cohen H. Nalbuphine augmentation of analgesia and reversal of side effects following epidural hydromorphone. *Anesthesiology* 1986; 65:216-8.
6. Davies GD, From R. A blinded study using nalbuphine for prevention of pruritus induced by epidural fentanyl. *Anesthesiology* 1988; 69:763-5.

The above letter was referred to the authors of the article in question, who offer the following reply:

*To the Editor:* Dr. From has submitted some productive comments on the use of naloxone to control the side effects of intrathecal morphine for labor pain. I agree that it is possible for patients to receive unintentionally intravenous fluids at rates greater than 100 mL/hr, which could be unsafe; however, I continue to recommend supplementation of naloxone in 0.1 mg intravenous bolus as needed rather than an increase in the intravenous rate greater than 100–125 mL/hr. Dr. From

has pointed out the possible side effect of pulmonary edema from naloxone administration. I agree we should be aware of this side effect, but in the references cited, the patients who developed this either had preexisting cardiac disease<sup>2</sup> or had received multiple other medications during anesthesia.<sup>3</sup> While it would seem that use of naloxone would oppose the analgesic effect of the intrathecal morphine, this has not been my experience, nor was it reported by Poul and colleagues.<sup>4</sup>

Nalbuphine or butorphanol may be safe alternatives to naloxone<sup>5</sup> as suggested by Dr. From, provided that adequate attention is given to their respiratory effect on the newborn who has no narcotic on board for these to act as antagonist.

My conclusion, after reviewing the literature, is that nalbuphine and butorphanol may be useful alternatives in some patients, but at present, in the healthy pregnant patient, naloxone is the safest choice to control the side effects of intrathecal morphine.

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#### References

1. Edwards RD, Hansel NK, Pruessner HT, Barton B. Intrathecal morphine as analgesia for labor pain. *J Am Bd Fam Pract* 1988; 1:245-50.
2. Flacke JW, Flacke WE, Williams GD. Acute pulmonary edema following naloxone reversal of high-dose morphine anesthesia. *Anesthesiology* 1977; 47:376-8.
3. Prough DS, Roy R, Bumgarner J, Shannon G. Acute pulmonary edema in healthy teenagers following conservative doses of intravenous naloxone. *Anesthesiology* 1984; 60:485-6.
4. Poul H, Soren SS, Jphannes EB, Alvito F, Anni S. Intrathecal administration of morphine for the relief of pain in labor and estimation of maternal and fetal plasma concentration of morphine. *European Journal Obstetrics Gynecology Reproductive Biology* 1987; 25:195-201.
5. Henderson SK, Cohen H. Nalbuphine augmentation of analgesia and reversal of side effects following epidural hydromorphone. *Anesthesiology* 1986; 65:216-8.

#### Rural Obstetric Care

*To the Editor:* If the scientific method may be defined as the careful testing of a hypothesis, then Dr. Wain Allen's article "Obstetric Care in a Rural Family Practice" (January–March 1989) qualifies in spades. The hypothesis seems to me to be that a competent, dedicated, well-trained family physician can safely "deliver" obstetrical care in a rural environment. The numbers, though small, are carefully assessed and reported. The writing is succinct, and the distinction is made between opinion and fact. I disagree with Dr. Paul Young's editorial comment that the "data do not scientifically establish any specific hypothesis" or that "fetal outcomes are not documented." There were no deaths, and the one premature birth was "normal at 2 years of age." Perhaps I do not understand what more Dr. Young requires.

My congratulations to the editors for publishing this much needed article from the trenches of family medicine. It should encourage the submission of similar private practice studies to family practice journals.