

## CORRESPONDENCE

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*In Reply:*—I completely agree with the comment made by Dr. Nakura *et al.* Measurement of the cross-sectional area using an endoscope depends on the position of the image on the fiberoptic view field, as clearly shown by the figures. Distortion of the endoscopic image is inevitable for obtaining a wide-angle view, especially for a thin endoscope. To reduce this limitation, we attempted to obtain pharyngeal images on the center of the view field, as shown by figure 2 of our article. In addition, the limitation was included in the variability of measurement of the cross-sectional area presented in the Method section. Accuracy of our cross-sectional area measurement is

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## Does Anesthesiology, Like History, Repeat Itself?

*To the Editor:*—In the July 1997 issue of ANESTHESIOLOGY, Robert D'Angelo and James C. Eisenach reported severe maternal hypotension (74/38 mmHg) and fetal bradycardia four minutes after intrathecal injection of 2.5 mg bupivacaine and 7.5  $\mu$ g sufentanil. The authors warned the reader of the pitfalls of the combined spinal epidural technique. However, we believe that the problem is more likely related to excessive doses of the injected drugs and not to the technique.

In 1995, we showed, in an audit of 620 parturient patients, that intrathecal administration of 1 mg bupivacaine with 5  $\mu$ g sufentanil epinephrine resulted in excellent analgesia in 94% of all parturient patients.<sup>1</sup> Motor block was not a problem. Hypotension with a systolic pressure less than 100 mmHg occurred in 24 patients (4%) but was always easily corrected, either by positioning of the mother or, in two cases, by administration of intravenous ephedrine (5 mg). Currently, we have experience with this dosage in more than 3,500 patients. Analgesia is excellent, and severe and lasting hypotension is of no concern.

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*In Reply:*—We thank Drs. Joos and Van Steenberge for their thoughtful reading of our case report and congratulate them on their continued dedication to the field of obstetric anesthesia and their continued refinements to make it more safe and effective. They raise several important tenets of labor analgesia and uncover some important uncertainties. First, one clearly should use the lowest effective dose of intraspinal agent. As they nicely discuss, there has been a steady decrease in the concentration and dose of epidural bupivacaine used in obstetric analgesia, and although many consider bupivacaine, 0.125%, plus opioid an overdose, we agree with our European colleagues that lower concentrations are not routinely effective.

The lowest effective dose of intrathecal sufentanil alone or with bupivacaine is not known. Although initial studies used 10–15  $\mu$ g

described in more detail in our article (Am J Respir Crit Care Med 1998; 157:1204–12). I hope that this short communication stimulates manufactures to develop new technology to solve this problem in the near future.

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We are convinced that the administration of 2.5 mg bupivacaine and 7.5  $\mu$ g sufentanil is the real mischief and not the technique as such.

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## Reference

1. Joos, S, Servais R, Van Steenberge A: Sequential spinal epidural analgesia for pain relief in labor. *Int J Obstet Anesth* 1995; 3:155–7

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sufentanil, lower doses (5–7.5  $\mu$ g) are being used. Few dose-response data exist, and those that have been recently published show a very flat dose-response, perhaps reflecting a wide variability in response as labor progresses.

Whereas we are clearly in favor of combining  $\alpha$ -2-adrenergic agonists, local anesthetics, and opioids for spinal analgesia, there are virtually no systematic data that show the "best ratio" of epinephrine, bupivacaine, and sufentanil for labor analgesia. We use sufentanil (7.5  $\mu$ g) plus bupivacaine (2.5 mg) as a combination that has been described and that produces a reasonable period of analgesia in early and late labor. Whether lower doses would be equally effective for similar durations of time is not known. To suggest that the concoction used at our colleagues' institutions represents the