Correspondence

Cost containment in obstetric analgesia

To the Editor:

Cheng *et al.*¹ recently concluded that fentanyl provides similar analgesia at lower costs for labour analgesia compared to sufentanil. None of the currently available opioids possesses ideal pharmacokinetic properties for neuraxial use. Although limiting health care costs is warranted, care should be taken not to choose a less effective and potentially more harmful drug. In obstetric anesthesia, neonatal drug exposure is of equal importance, a point not discussed by the authors.

In an animal model, intrathecal fentanyl is more readily redistributed to the epidural space than sufentanil,² so one may ask why not inject it epidurally in the first place? This is in part explained by its lower octanol: buffer distribution coefficient facilitating meningeal transfer. Accordingly, epidural fentanyl for labour analgesia results in higher maternal plasma levels and higher fetal opioid exposure with reduced neonatal neurobehavioural test scores compared with sufentanil.³ In addition, there is a trend toward superior analgesia with sufentanil.³ Since epidural analgesia is an important component of the combined spinal-epidural technique, sufentanil for intrathecal injection would be taken from the same vial at no additional costs. In providing labour analgesia, anesthesiologists should reconsider choosing a more expensive technique with inherent risks and with no clinically significant benefit in properly designed trials,⁴ and then try to save these additional costs by opting for a potentially more harmful drug. We therefore propose to use epidural analgesia with sufentanil for labour, leaving the dura intact, and saving money.

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References

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- 2 Ummenhofer WC, Arends RH, Shen DD, Bernards CM. Comparative spinal distribution and clearance kinetics

of intrathecally administered morphine, fentanyl, alfentanil, and sufentanil. *Anesthesiology* 2000; 92: 739–53.

- 3 Loftus JR, Hill H, Cohen SE. Placental transfer and neonatal effects of epidural sufentanil and fentanyl administered with bupivacaine during labor. *Anesthesiology* 1995; 83: 300–8.
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REPLY:

We concur with Dr. Gogarten *et al.*, that to harm or to exact a less than effective therapy to any patient for any "reason" at all (e.g., saving costs or for a vested interest on the part of the clinician) is totally unwarranted. On the other hand, one should not be overzealous in defending excessive expenditure, especially if it is for a dubious advantage. Our study showed that the clinical benefits and side effects were indistinguishable between fentanyl and sufentanil; as a corollary, the lower cost of fentanyl is an advantage.¹

We believed it inappropriate to comment on the eventual neonatal well being as this would have been strongly influenced by a multitude of analgesia and non-analgesia related variables/exposures during the remaining intrapartum period. However, we did look at its surrogate, i.e., fetal heart rate tracing, and found no difference between fentanyl and sufentanil, albeit our study was probably underpowered here.

This is not a forum to discuss the veracity of extrapolating animal models to clinical anesthesia or the advantages/drawbacks of epidural fentanyl vs sufentanil; suffice it to say that over time, epidural infusion of both drugs does appear to produce analgesia by systemic uptake and redistribution.^{2,3} We therefore suggest a less dogmatic but more customized approach to labour epidural analgesia by using a low dose, multimodal (local anesthetic + lipophilic opioid ± α_2 agonist) technique and by considering combined spinal-epidural analgesia when indicated (e.g., late first stage of labour).

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