

Anesthesiology  
69:805, 1988

## Mini-dose Intrathecal Morphine for Analgesia following Cesarean Section

*To the Editor:*—In their recent report, Chadwick and Ready<sup>1</sup> compared the use of intrathecal morphine sulphate (MS) to that of epidural MS for providing postoperative analgesia. Their results regarding the efficacy of 0.3–0.5 mg intrathecal MS are consistent with our recent study<sup>2</sup> in which we used approximately half the dose they used (0.1–0.25 mg). The mean duration of analgesia obtained with 0.25 mg of morphine was approximately 28 h, which was significantly longer than that provided by 5 mg of epidural morphine,<sup>3</sup> a finding consistent with their findings.

Our findings also indicate that MS 0.1–0.25 mg provides a high quality of analgesia as ascertained by the visual analog scale used throughout our study, a finding also consistent with theirs. In addition, we assessed the respiratory effects of intrathecal MS (using CO<sub>2</sub> response curves) and showed that up to 0.25 mg of intrathecal morphine is not associated with respiratory depression, a finding that might be different when using 0.5 mg of MS.

THERESE K. ABBOUD, M.D.  
*Professor of Anesthesia  
Director of OB Anesthesia  
Research, Department of Anesthesiology,  
Los Angeles County-University of  
Southern California Medical Center*

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*In Reply:*—The recent report by Abboud *et al.*<sup>1</sup> provides interesting and reassuring evidence of the lack of effect on respiratory drive with intrathecal morphine used for post-cesarean analgesia in doses up to 0.25 mg. In comparing the results of our respective studies, it is not clear if the quality and duration of analgesia are equivalent when doses of 0.1–0.25 mg are used instead of doses of 0.3–0.5 mg used in our study.<sup>2</sup> The manner in which quality and duration of analgesia were determined was not clearly described in the report by Abboud *et al.* We do, however, believe that doses greater than 0.3 mg may not be necessary for post-cesarean analgesia. Our data viewed in combination with those reported by de la Vega and de Sousa\* indicate that there may be a ceiling effect for quality of analgesia in the approximate dose range of 0.25–0.3 mg. The effect of dose on duration of analgesia may be a different matter. The data presented by Abboud *et al.*, our own data, as well as that of others,<sup>3,4</sup> indicate that increasing doses of both intrathecal and epidural narcotics are associated with longer duration of analgesia.

The demonstrated lack of significant effects on ventilation with low dose intrathecal morphine is particularly important in view of reports that intrathecal morphine is associated with a higher incidence of respiratory depression than epidural morphine.<sup>5</sup> In the reported cases of ventilatory depression, higher doses of morphine were used. It is not known if doses as low (or high) as 0.5 mg intrathecal morphine result in altered respiratory drive. In our experience involving over 325 post-cesarean patients given 0.3–0.5 mg morphine intrathecally, we have not observed any instances of clinically apparent respiratory depression. We join Dr. Abboud in recommending smaller doses of

\* De la Vega S, De Sousa H: Dose response of intrathecal morphine for postoperative pain relief (abstract). *Regional Anesthesia* 12:91, 1987

Box 12  
LAC-USC Medical Center  
1200 North State Street  
Los Angeles, California 90033

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(Accepted for publication July 25, 1988.)

intrathecal morphine than those which have been commonly reported for postoperative pain control.

H. S. CHADWICK, M.D.  
*Associate Professor of Anesthesiology  
Director, Obstetric Anesthesia*

L. BRIAN READY, M.D., F.R.C.P.(C.)  
*Associate Professor of Anesthesiology  
Director, Acute Pain Service  
Department of Anesthesiology  
University of Washington  
Seattle, Washington 98195*

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(Accepted for publication July 25, 1988.)