siderably⁴ and enhance the likelihood of extensive spread of intrathecally administered drugs.

5. Last, but not least, concomitant use of systemic opioids require close observation and monitoring of these patients.

José Carlos Almeida Carvalho MD PHD FANZCA
São Paulo, Brazil

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To the Editor:

The report by Katsiris *et al.* is the latest in a series of respiratory arrests in parturients following intrathecal sufentanil.¹ While the authors state that they cannot identify any predisposing factors, there is clearly a common element in all these reports. There are 13 cases of respiratory arrest or high sensory block in the references (including this case). In ten, the patient was definitely sitting for the procedure, in two they were probably sitting (the patient is reported to be placed supine after the block), and in one case no position was listed.

A recent report of the densities of cerebrospinal fluid (CSF) and anesthetic agents² listed the following:

CSF density at 37°C	
term parturients	1.00033
95% confidence limits	1.00013–1.00053
0.25% bupivacaine	0.9990
sufentanil 50 µg·ml ⁻¹	0.9933
preservative free 0.9% NaCl	0.9995

Assuming a normal distribution, 2.5% of parturients will have CSF densities above 1.00053. The upper limit

is unknown. It is likely that, in a small number of patients, the intrathecal dose of sufentanil ± bupivacaine is significantly hypobaric, and the reported respiratory depression is due to cephalad spread. Perhaps the message from these reports should be to beware of sufentanil administered in the sitting position!

Jordan Tarshis
Toronto, Ontario

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REPLY:

We would like to thank Drs. Carvalho and Tarshis for their comments and observations. We agree that 10 µg subarachnoid sufentanil is more than is required for labour analgesia. Also, parenteral opioids, given before intrathecal sufentanil appear to increase the risk of respiratory depression.

It is interesting that the solution used was likely isobaric or mildly hypobaric. However, we are uncertain that the patient position at the time of injection was responsible for the respiratory depression in this case. While ten of the thirteen reported cases of respiratory depression occurred in patients given the drugs in the upright position, the total number of injections in that position, compared with that in the lateral position, is not known. Further, there may be unreported cases of patients who suffered respiratory depression and received their injection in the lateral position. The primary advantage of using small doses of intrathecal opioids with local anaesthetic is that the patient can ambulate – implying the upright position.

In summary, this case illustrated severe respiratory depression from a standard clinical dose of intrathecal sufentanil. We wanted to draw attention to the risks so that clinicians might re-evaluate the drug doses used and indications for the procedure.

Sandra Katsiris MD FRCPC
London, Ontario
Stephen Halpern MD MSC FRCPC
Toronto, Ontario