Correspondence

Saline through the epidural needle: what volume?

To the Editor:

I read with interest the article by Gadalla *et al.*¹ However, it seems to me that the same effect can be accomplished with a smaller volume of saline administered through the epidural needle. In the author's practice the loss of resistance to saline (LORS; 1.5–2 mL) is used for the identification of the epidural space with an 18-gauge Tuohy-Schliff epidural needle. A 27-gauge Pencan needle is inserted inside the epidural needle, 5 µg of fentanyl combined with 2.5 mg of levobupivacaine is injected intrathecally, the spinal needle is withdrawn, and 2 to 2.5 mL of normal saline is injected through the epidural needle. A 20-gauge multi-orifice epidural catheter is then inserted into the epidural space. Using this technique I have had an incidence of intravascular cannulation by the epidural catheter of 4% (unpublished data). This may be explained by the fact that with the LORS technique as opposed to the loss of resistance to air technique (LORA) some fluid is injected in the epidural space at the time of the epidural space identification. However, and importantly to the contrary, Rolbin *et al.* noted that there was no advantage to the injection of 3 mL of fluid into the epidural space before insertion of an epidural catheter.² In conclusion I would challenge the authors to study several groups of patients receiving different volumes of normal saline (for example 2.5, 5, 10 mL) and use both LORS and LORA techniques for identification of the epidural space.

Krzysztof M. Kuczkowski
San Diego, California

References

- 1 Gadalla F, Lee SH, Choi KC, Fong J, Gomillion MC, Leighton BL. Injecting saline through the epidural needle decreases the iv epidural catheter placement rate during combined spinal-epidural labour analgesia. *Can J Anesth* 2003; 50: 382–5.
- 2 Rolbin SH, Halpern SH, Braude BM, Kapala D, Unger R, Radhakrishna S. Fluid through the epidural needle does not reduce complications of epidural catheter insertion. *Can J Anaesth* 1990; 37: 337–40.

REPLY:

I am gratified with Dr. Kuczkowski's interest in our study¹ and am in complete agreement that there is room for more work in this area. In fact, we are already in the process of designing a follow-up clinical study using different volumes of normal saline.

Prior to this we had not considered comparing loss of resistance to saline and loss of resistance to air techniques, but may act on his suggestion.

Farida Gadalla MD
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Reference

- 1 Gadalla F, Lee SH, Choi KC, Fong J, Gomillion MC, Leighton BL. Injecting saline through the epidural needle decreases the iv epidural catheter placement rate during combined spinal-epidural labour analgesia. *Can J Anesth* 2003; 50: 382–5.

Avoiding the accidental iv injection of local anesthetics

To the Editor:

A recent article by Favier *et al.*, highlighted the successful resuscitation of a patient who experienced severe bupivacaine cardiotoxicity.¹ Such incidents are not uncommon in anesthesia practice.² The authors have concomitantly suggested a number of preliminary measures to prevent such mishaps. They recommend the absolute necessity of careful labelling of syringes and the use of specific syringes with large volumes for local anesthetics. However, both measures have inherent drawbacks. Errors with labelling of syringes have been featured by various authors. Labelling marcaine for bupivacaine has been mistaken for morphine and the bupivacaine label may be mistaken for butorphanol or buprenorphine.³ On the other hand, the use of large volume syringes (20–30 mL) may lead to the accidental administration of relatively large volumes of local anesthetics for neuraxial block with catastrophic results.⁴

Loss of resistance is the commonest method used to identify the epidural space. This is best accomplished using a 10-mL prepackaged plastic or glass syringe.⁵ The distinct colour of the plunger of the