

LETTERS TO THE EDITOR

BLUNT OR SHARP NEEDLES FOR TRANSFORAMINAL EPIDURALS?

To the Editor:

Derby et al (1) noted that in 2003 approximately half (14/29) of International Spinal Injection Society (ISIS) instructors and the majority (14/17) of poll respondents reported performing transforaminal epidural steroids injections. Do the authors have any data as to needle type (blunt vs sharp) used? If ISIS instructors persist in performing transforaminal injections with sharp-tipped needles, this would appear to be a resounding rejection of the recent caveats appearing in the interventional pain management literature.

Furthermore, although blunt tipped needles appear to be safe for use around canine renal arteries (2), no information is available to confirm the proposition that they reduce the incidence of serious complications in humans undergoing pain procedures. At this point in time the putative benefit is pure conjecture. Whether or not using blunt needles results in an unanticipated new set of devastating injuries unique to blunt

needles remains to be seen; it took quite a few years for the transforaminal complications to surface. Medical history is replete with "improvements" that seemed laudable at the time but later turned out to be as bad as, or worse than, the problems they addressed. The older anesthesia-based interventionalists will recall that once upon a time particulate antacids seemed to be a good idea during parturition. Closer to home, complete bed rest and lumbar traction for low back pain also comes to mind. I believe we crippled quite a few unfortunates with that "common-sense" and intuitively appealing approach when I was an intern.

The authors also correctly point out that those practitioners who have incurred major complications may not have been willing to self-report for this study. I am personally aware of two deaths in the past year that resulted directly from intra-arterial injection during transforaminal cervical epidural steroid procedures, neither of which were performed by ISIS instructors, nor have they been published.

Both cases, as one might expect, are now in litigation. I doubt that either of the practitioner/defendants would be inclined to participate in such a poll.

A closed-claims study similar to the efforts made by our anesthesiology brethren might better define the magnitude of the problem. This would not depend on self-reporting or physician recall, and the operative technique would be easily discernible in the medical record.

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IN RESPONSE

Our survey (1) did not include a question asking about the type of needle used for transforaminal epidurals, but I suspect that most if not all the instructors use short bevel needles. Most practitioners using blunt needles were trained by Gabor Racz or his disciples (2-4). Because of the hassle of using a two needle technique, I do not use blunt needles, but I may re-evaluate the technique. I respect the opinions of Dr. Racz and logically it would seem that there would be less chance of penetrating an artery with a blunt needle (5). I do however agree that whether or not a blunt tip needle will prevent inadvertent injection into an artery is conjecture and I also agree with your

comment that using these needles could potentially cause other unforeseen complications. Dr Racz has however trained many physicians using his techniques and I would defer to his expertise.

For the reasons you and I discussed, the magnitude of these catastrophic complications remains speculative (6-14). The fact that we are all aware of these problems and they are being discussed in open forums will hopefully lead to safer practices. I personally believe that injection of particulate matter into the vertebral artery is the primary cause of the majority of the catastrophic complications. I did however read with interest the study Huntoon et

al (15) describing branches of the deep and ascending cervical arteries passing first ventral through the intervertebral foramen but deep within the foramen the arteries pass more dorsal. In addition in one cadaver a radicular artery was seen dorsal to the nerve root. Cord infarcts could be caused by inadvertent injections into these arteries.

I continue to perform transforaminal injections for pain secondary to bony or soft-tissue foraminal dynamic/static stenosis. Although I will still use a small (~.25 ml) volume of Kenalog when there is no evidence of vascular uptake, in many cases I only use non-particulate Decadron.

The real question is whether societies, medical device companies, or private practice groups should continue training novice injectionists. Fifteen years ago, we began training physicians because at the time the only courses were being held by device companies. There were only a few university-based programs that taught fluoroscopically guided injection techniques. Although perhaps an honorable endeavor in the beginning, this has resulted in an exponential increase in physicians trained in weekend courses (16). For someone who is self trained by trial and error, it is perhaps disingenuous for me to suggest that there are now enough good university and specialized fellowship programs to re-evaluate the current state of affairs. I have, however, no illusion that anything will change in the near future.

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PARKING LOT TEST: FACT OR FICTION!

To the Editor:

Many practitioners have been known to use the "Parking Lot Test" in accessing the veracity of their patient's axial spine complaints and functional disability. This usually involves observing the patient without his or her knowledge and comparing the amount of visible analgesia to that seen in the office. In the alternative, serial observations of the patient are used during the exam to determine if the patient is presenting in a consistent fashion. For instance, serial observations of range of motion while performing various tests are used to determine if the patient is consciously or unconsciously giving a false effort.

I recently had the opportunity to test this theory in a canine model. My dog has had a persistent limp for years and has an analgesic gait. The other night I was struck by a curious observation. When she came into the house, she was limping quite severely. Then in the space of a few seconds, when called, the limping decreased sharp-

ly. Then after I had decided to give her a treat, the limp all but disappeared in her excitement. Had I uncovered an animal model of malingering? While I'd love to believe this, there is a much more scientific explanation. The most completely described pain modulating circuit includes the amygdala, PAG, DLPT and RVM in the brainstem (1). Through descending projections, this circuit controls both spinal and trigeminal dorsal horn pain transmission neurons. Several different neurotransmitters exert bi-directional control of pain through On cells that facilitate and Off cells that inhibit dorsal horn nociceptive neurons. Such an effect provides a physiological mechanism for the pain enhancing actions of mood, attention and expectation. So when my dog is expecting a steak, she stimulates her "Off" cells through descending influences from the amygdala, PAG, DLPT and RVM in the brainstem. This results in inhibition of nociceptive neurons in the dorsal horn and allows her to get to the steak

much faster.

In summary, my animal model of malingering is nothing more than a biologic imperative that has evolved to make sure that we can modulate pain to achieve an important task. So the next time you apply the "Parking Lot Test", remember that observations of rapidly altering levels of analgesia or range of motion may just mean the patient is happy to leave your office.

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