

## *Short communications*

# Needle-through-needle compared to Eldor needle technique

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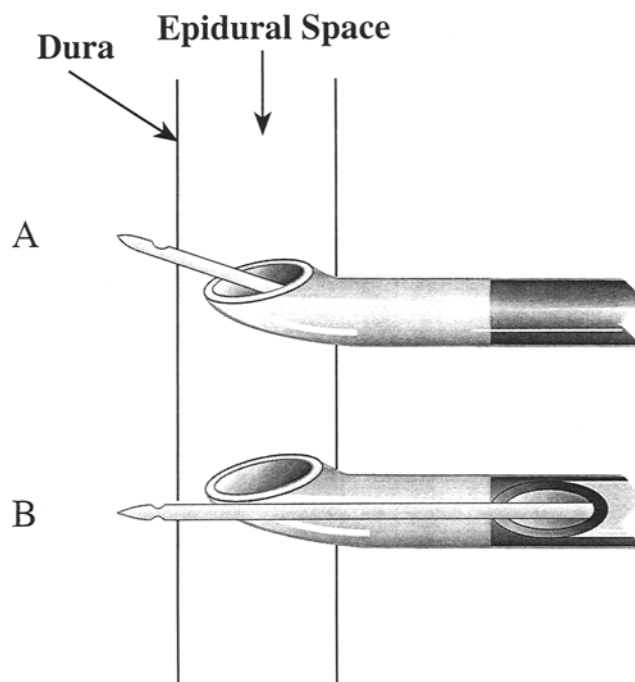
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Birnbach and Danzer [1] have recently published a comment on the production of metallic microparticles by the needle-through-needle technique for combined spinal-epidural anesthesia. They quoted an abstract by Holst et al. [2] dated 1994 reporting that “there were no metallic impurities as detected by atomic absorption measurements.” However, in another article by Herman et al. [3] entitled “No *additional* metal particle formation using needle-through-needle combined epidural/spinal technique” there is a photomicrograph ( $\times 45$ ) showing a “notching defect . . . within the lumen along the tract of the spinal needle at the tip.” In the clinical setting, an epidural catheter is pushed through the epidural shaft after the spinal needle is withdrawn, so the “notching defect,” which is an accumulation of metallic microparticles detached from its surface, can be pushed forward by the force exerted to insert the catheter into the epidural space.

Birnbach and Danzer also questioned our hypothesis that these metallic microparticles can cause aseptic meningitis. However, since 1994 there have been two case reports of aseptic meningitis involving the needle-through-needle technique [4,5]. Concerning both of these reports, we have commented on the possibility that these metallic microparticles *should* be considered in the differential diagnosis. Only future case reports will show if we, or Birnbach and Danzer, are correct on that issue. However, since Birnbach and Danzer mentioned the Eldor needle saying that “the information found in Dr. Eldor’s letter does not prove the superiority of alternative methods of combined spinal-epidural anesthesia (CSE) (such as the Eldor needle) as compared with the needle-through-needle technique,” we would like to submit the following figure of the tips of the needle-through-needle (Fig. 1A) compared to the

Eldor needle technique (Fig. 1B). It is obvious that while the Whitacre pencil point spinal needle exits the epidural needle at a  $10^\circ$  angle (Fig. 1A), the double-hole pencil point spinal needle of the Eldor combined spinal-epidural pack (A.L.B. Medical, Coral Springs, FL, USA) exits its spinal conduit in a straight direction.

It is also obvious that there is friction between the two nonparallel tips of the needle-through-needle technique which produces metallic microparticles. The question as to whether these microparticles can cause (or have caused) aseptic meningitis remains open for further



**Fig. 1.** **A** Needle-through-needle technique: The Whitacre pencil point spinal needle deflects by  $10^\circ$  from the tip of the epidural needle. **B** Eldor needle technique: The double-hole pencil point spinal needle exits the spinal conduit of the Eldor needle in a straight direction and parallel to the epidural tip

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Received for publication on September 6, 1996; accepted on November 1, 1996

clinical case reports. Another question is, why use the needle-through-needle technique with its probable danger of metallic microparticle production, when there is another FDA-approved technique which does not carry this risk?

### References

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