Pitfalls of a Shared Neuraxial Space

Wandering Epidural Catheter

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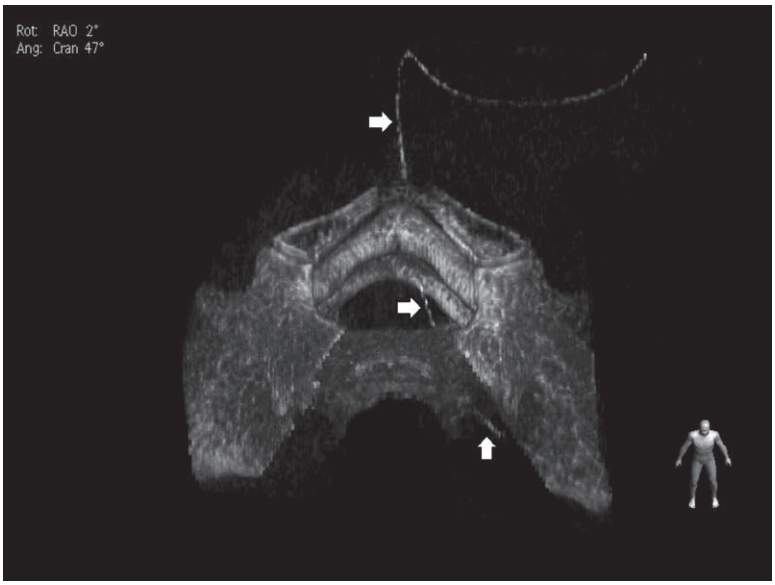

Children with severe spasticity with indwelling baclofen pumps often present for extensive orthopedic procedures to improve mobility and comfort. Procedural pain can be effectively managed by epidural infusions. Epidurals are sited at surgically congruent levels either above or below the level of insertion of the intrathecal catheter.[1,2]

The three-dimensional reconstructed view demonstrates the course of epidural catheter traveling caudally in the epidural space (image). The catheter travels from the L4 level coursing antero-laterally at the L5 level, "wandering" toward the left L5–S1 foramen to lie anterior to the sacrum.

The epidural catheter is placed in the L4–L5 interspace with the bevel of the Touhy needle directed cephalad in a patient with a longstanding intrathecal catheter at the L3 level.

Risks of placing an epidural with an existing intrathecal catheter include catheter damage with interruption of baclofen delivery and subsequent baclofen withdrawal syndrome, intrathecal migration of the epidural catheter, and misdirected epidural catheter due to a scarred epidural space. Any one of these scenarios would lead to suboptimal pain control in a patient population that is often nonverbal or cognitively delayed.

This image underscores the potential for epidural catheter malposition in a scarred epidural space and make a case for routine postepidural placement epidurogram in patients with intrathecal catheters. A computed tomography scan conspicuously displays small-caliber epidural catheters and may be further augmented by contrast.[3]

Competing Interests

The authors declare no competing interests.

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References

1. Piper NA, Flack SH, Loeser JD, Lynn AM: Epidural analgesia in a patient with an intrathecal catheter and subcutaneous pump to deliver baclofen. Paediatr Anaesth 2006; 16:989–92
2. Ali Sakr Esa W, Toma I, Tetzlaff JE, Barsoum S: Epidural analgesia in labor for a woman with an intrathecal baclofen pump. Int J Obstet Anesth 2009; 18:64–6
3. Motamed C, Farhat F, Rémérand F, Stéphanazzi J, Laplanche A, Jayr C: An analysis of postoperative epidural analgesia failure by computed tomography epidurography. Anesth Analg 2006; 103:1026–32

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