

## Ultrasound Guided Technique for the Caudal Epidural Injection

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### LETTERS TO EDITORS

I read with great concern the article entitled "A comparison of two techniques for ultrasound-guided caudal injection: the influence of the depth of the inserted needle on caudal block," published in the Korean Journal of Pain by Doo et al. [1]. Caudal epidural injection is a very popular approach for the low back pain and/or leg pain in the chronic pain management. There are a lot of studies about the caudal epidural block, such as blind technique, fluoroscopic guided approach, ultrasound guided approach, and their complications.

There was a report about the depth and angle during caudal epidural block using blind technique [2]. The complications from caudal epidural block can be avoided by knowing the depth and angle before the procedure. They reported the depth of caudal epidural space from skin to epidural space as 2–4 cm and the needle angle to the skin was 15–50 degree. However, their data was obtained by blind technique. There is a very useful cadaver study about the anatomy of caudal epidural space [3]. They studied the angle of needle insertion and the depth of caudal space, and mentioned that the needle should not be advanced over

5 mm after the puncture of the sacrococcygeal ligament for avoiding dural puncture. Doo et al. reported only the success rate and intravascular incidences. They should have reported the depth from the skin to epidural space.

There is a prospective study for evaluating accuracy of needle placement during the caudal epidural injections which comments that fluoroscopic guided injection is the gold standard of caudal epidural block for the correct position of the needle [4]. They checked the lateral view as well as anteroposterior view during the fluoroscopic guided procedure. Doo et al. used the fluoroscopy for confirming the epidural spreading the injectate by only anteroposterior view. For the exact point of the needle tip in the caudal epidural space, we need the lateral view of the fluoroscopy.

Their results showed that intravascular incidence during the caudal epidural injection by conventional method was 24% even though they used the ultrasound guided technique. As we know, the limitation of ultrasound guided injection is not detectable for the hidden structures by bone barrier. In spite of the limitation of ultrasound guided monitor, ultrasound guided technique for the caudal epidural injection is the useful way of the needle approach.

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