Subdural spread of contrast after epidural catheter placement

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Introduction:
Analgesia via epidural catheters is a frequently used technique. The authors have been using epidurograms routinely since 2000 in children and present two cases of unexpected intrathecal spread from an epidural catheter.
The routine use of epidurograms is not common practice to our knowledge. Although we also use ultrasound in most patients for confirmation of epidural catheter placement, both these cases would not have been detected by ultrasound alone.

Methods:
We have previously reported[1] our technique of performing epidurograms. Depending on the age and the location of the tip of the epidural catheter we used different concentrations of contrast dye. The volume of our epidural catheters is 0.2 – 0.3 ml; we typically inject 0.7 – 1.0 ml of contrast to document catheter position. Fluoroscopy is used to verify correct positioning.

Case #1
A patient with osteosarcoma of the pelvis is having a lumbar epidural catheter placed for pain control. After placement of the catheter the epidurogram demonstrates a one-sided epidurogram with intrathecal contrast spread.

Case #2
Patient who had a high lumbar catheter placed for vesico – ureteral reimplants. The epidurogram demonstrates an epidural catheter with spread of dye into the subdural space, likely from an unrecognized "wet" tap. Based on the image, the epidural catheter was removed and alternative postoperative analgesia was used.

Discussion
We advocate the routine use of epidurograms. We have detected numerous misplacements that were entirely unanticipated over the years and the difficulty of replacing dysfunctional catheters in children mandates the most reliable technique available to guarantee correct placement.

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[1] Taenzer, AH. Inadvertent spinal anesthesia during continuous epidural anesthesia in an infant. Anesthesiology. 2003 Apr;98(4):1014-5.