



A Case of Total Neuraxial Anesthesia after Epidural Bolus for an Emergency Cesarean Section

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Introduction:

Total neuraxial block is a rare complication of spinal anesthesia and an even rarer complication of epidural anesthesia.¹ We present a case of complete neuraxial block that occurred after a lidocaine bolus delivered via a previously normally functioning epidural catheter for conversion to surgical anesthesia during an emergency cesarean section.

Case Description:

28 year old G4P2 at 39 weeks and 1 day gestation admitted for trial of labor after Caesarean section.

152 cm, 96 kg, 42 BMI

Chronic hypertension, obesity

Prior STAT Caesarean section under general anesthesia

- Initial labor epidural was complicated by inadvertent dural puncture. An epidural catheter was subsequently placed one interspace caudally. 0.2% ropivacaine infusion was begun without incident.
- Four hours later the patient developed sudden abdominal pain. She was taken emergently to the OR for suspected uterine rupture.
- The epidural was bolused with 2% lidocaine with 1:200K epinephrine in 5 ml increments every 5 minutes (total 20 ml).
- Prior to incision, the patient complained of dyspnea, which progressed to dysarthria. SpO₂ declined precipitously.

- Rapid conversion to general anesthesia and endotracheal intubation. Moderate hypotension was treated with phenylephrine, heart rate remained normal.
- Uneventful delivery of a viable baby girl, with no evidence of uterine rupture. Prior to extubation the patient was able to follow commands and move both upper extremities. She was extubated and had an uneventful postpartum course.

Discussion:

This patient had several characteristics frequently associated with high neuraxial anesthetic:¹

- Obesity
- Height <60 inches
- Epidural after inadvertent dural puncture

- Intrathecal catheter placement is unlikely since a ropivacaine infusion had been running at 8 ml/hr for several hours, however intrathecal catheter migration cannot be excluded.
- Catheter placement into the subdural space has been demonstrated in vitro and could explain the development of an unexpectedly high block.²
- Medication crossover from the epidural to the intrathecal space via the dural tear has been demonstrated in animal studies and offers perhaps the most compelling explanation.³

References:

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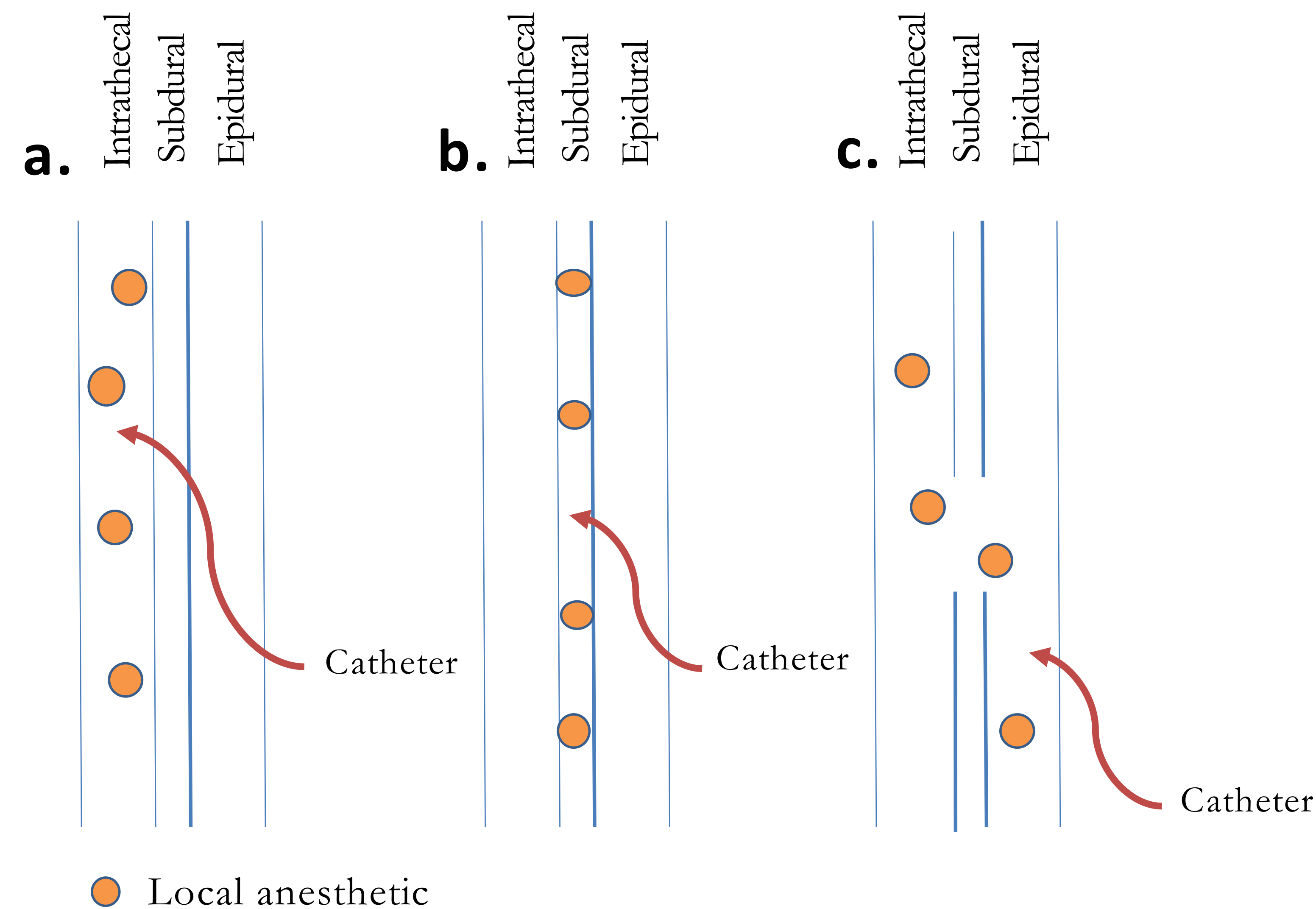


Figure 1. Possible etiologies of total neuraxial anesthesia. **A.** Inadvertent intrathecal catheter **B.** Subdural catheter **C.** Medication crossover from the epidural to intrathecal space via dural tear