

Management of a Postpartum Patient with an Entrapped Epidural Catheter

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Background

- Entrapped epidural catheters are exceedingly rare and potentially dangerous complications of labor epidural placement
- Most published cases report entrapped epidural catheter **fragments**, and deep insertion (>5 cm) has been suggested as a possible contributing factor
- Catheters may become entrapped within the epidural space or surrounding areas including subcutaneous tissue, supraspinous or interspinous ligaments, ligamentum flavum, paraspinal muscles, vertebral bodies or intrathecal space
- Patients may be asymptomatic or may have symptoms ranging from insertion site pain to neurological deficits due to infection, nerve injury/impingement or spinal cord compression

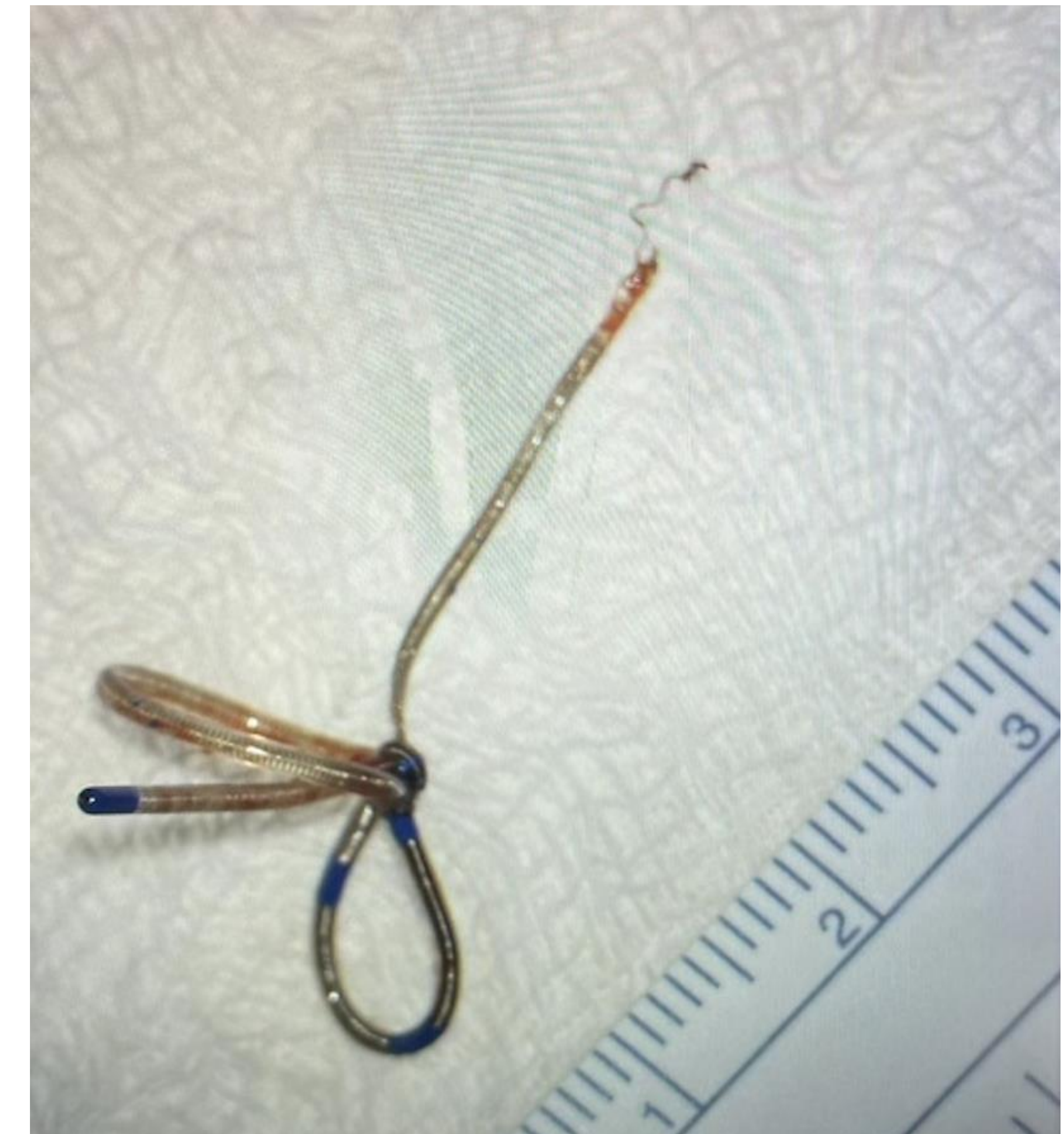
Case Presentation

30 year old G1P0 at 39w0d presenting for elective IOL requesting CLE

Medical history: Carrier of factor XI deficiency - factor levels 68% and no history of bleeding

Clinical course:

- Uneventful epidural placement with LOR at 5cm → catheter left at 10cm
- Epidural removal attempted 1hr postpartum by anesthesiologist, with difficulty dislodging the catheter despite changing patient's position
- Epidural catheter placed on traction overnight → attempts to remove it the following morning unsuccessful, but patient remained neurologically intact
- Neurosurgery consulted → recommended CT lumbar → L3-L4 midline catheter looping and possibly knotting in epidural space, distal tip intact
- Patient booked for microscopic foreign body removal under GA → noted with intact dura, lamina and ligaments → catheter removed in one piece albeit thinned, and patient had uneventful postoperative course
- Patient discharged home 2 days later and remained asymptomatic and neurologically intact at 1 month follow up



Teaching Points

- Prompt removal of a **wholly** entrapped epidural catheter is crucial to decrease the risk of infection or nerve injury
- Patient repositioning should initially be attempted, including **lumbar flexion, extension and lateral flexion** – ideally the same positioning as insertion
- Continuous, strong pulling should be avoided to protect catheter integrity
- If attempts are unsuccessful, the catheter should be placed on **simple traction** and secured to the skin under tension for several hours
- If difficulty removing the catheter persists, its anatomic location should be visualized with **lumbar CT**, alongside a neurosurgical evaluation
- MRI should be avoided if the catheter has metallic components, to avoid risk of thermal nerve damage
- For entrapped epidural **fragments** in **asymptomatic** patients, conservative management may be appropriate
- **Care should be taken to counsel the patient throughout, providing updates and - when appropriate - reassurance and long-term follow up**

