Iatrogenic Intrathecal Catheter Transection During Peripheral Nerve Stimulator Implant

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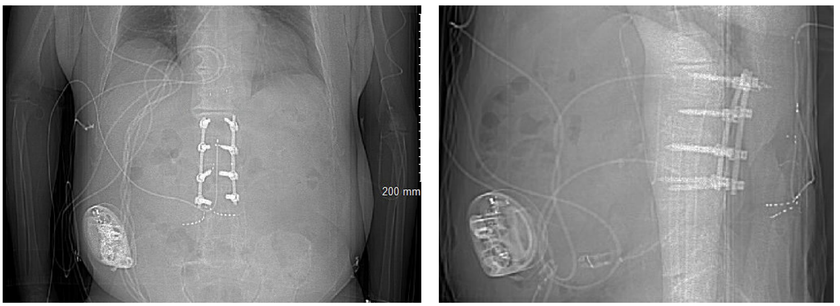
Background

- Advances in neuromodulation have increased the number of options in the treatment of chronic pain. Due to multifocal pain generators, dual modality neuromodulation is expected to become increasingly common.
- Caution is required when considering additional implanted devices, with awareness of location of leads and catheters to prevent unexpected complications.

Case Description

- A 69-year-old male with history of chronic low back pain s/p multiple lumbar surgeries and IT pump placement (2016) presented to the ED with the "worst headache of my life" on POD #3 following PNS trial targeting suspected cluneal neuralgia at an outside hospital.
- Hydromorphone pain pump was last accessed for refill approximately 2 months prior to presentation.
- In the ED, patient was found to have clear fluid pooling around the PNS lead entry site with clinical picture and labs consistent with bacterial meningitis.

Imaging



Review of previous IT pump procedure note revealed intrathecal entrance at the L3/L4 level. Peripheral nerve stimulator leads can be seen entering at the L3/L4 level. It was hypothesized that during PNS lead placement, the intrathecal catheter was transected.

Initial Surgery
- Patient undergoes bilateral cluneal nerve temporary PNS placement at an outside hospital

Feb 3rd, 2026

Feb 6th, 2026

ED Presentation
- Presents to the ED with fever, headache, tachycardia, leukocytosis, and clear fluid pooling near PNS entry site. LP obtained and concerning for bacterial meningitis. Started on cefepime, vancomycin, and ampicillin.

Pain Consulted
- Hydromorphone pain pump interrogated with appropriate amount of medication and no errors in dosing noted. Outside clinician who placed system was contacted to review details of procedure.

Feb 7th, 2026

Feb 10th, 2026

PNS System and IT Pump Explanted
- Taken to OR by neurosurgery for PNS lead and IT pump explanation. Suspected that based on location of IT pump catheter and PNS lead sites that IT catheter was transected during PNS placement.

Patient Discharged from Hospital
- OR cultures negative but had been on antibiotics for several days at that point. Completed 10-day course of IV antibiotics with resolution of infectious symptoms.

Feb 21st, 2026

April 22nd, 2026

IT Pump Replaced
- IT hydromorphone pain pump again placed by OSH pain clinician.

Treatment

- Following removal of intrathecal pain pump, patient was initially treated with hydromorphone PCA pump then transitioned to oral opioids.
- Until IT pump could be replaced, pain was treated with Tylenol, NSAIDs, muscle relaxers, and opioid analgesics.
- Following replacement of IT pump, patient has been able to decrease basal rate of his pump with adequate pain control.

Discussion

- This case describes a patient with with postoperative meningitis following iatrogenic intrathecal catheter transection during peripheral nerve stimulator implantation.
- As more patients utilize dual modality neuromodulation, detailed surgical planning will become increasingly important, especially in systems where components are radiolucent or difficult to locate on imaging.
- Future research identifying characteristics of probable responders to dual modality neuromodulation could be helpful in refining patient selection and decreasing the likelihood of potential complications in similar patients.

References

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