

A DRAMATIC CASE OF MEDIAN NERVE STIMULATOR MIGRATION

Lauren Pomerantz, MD Vinita Singh, MD

Introduction

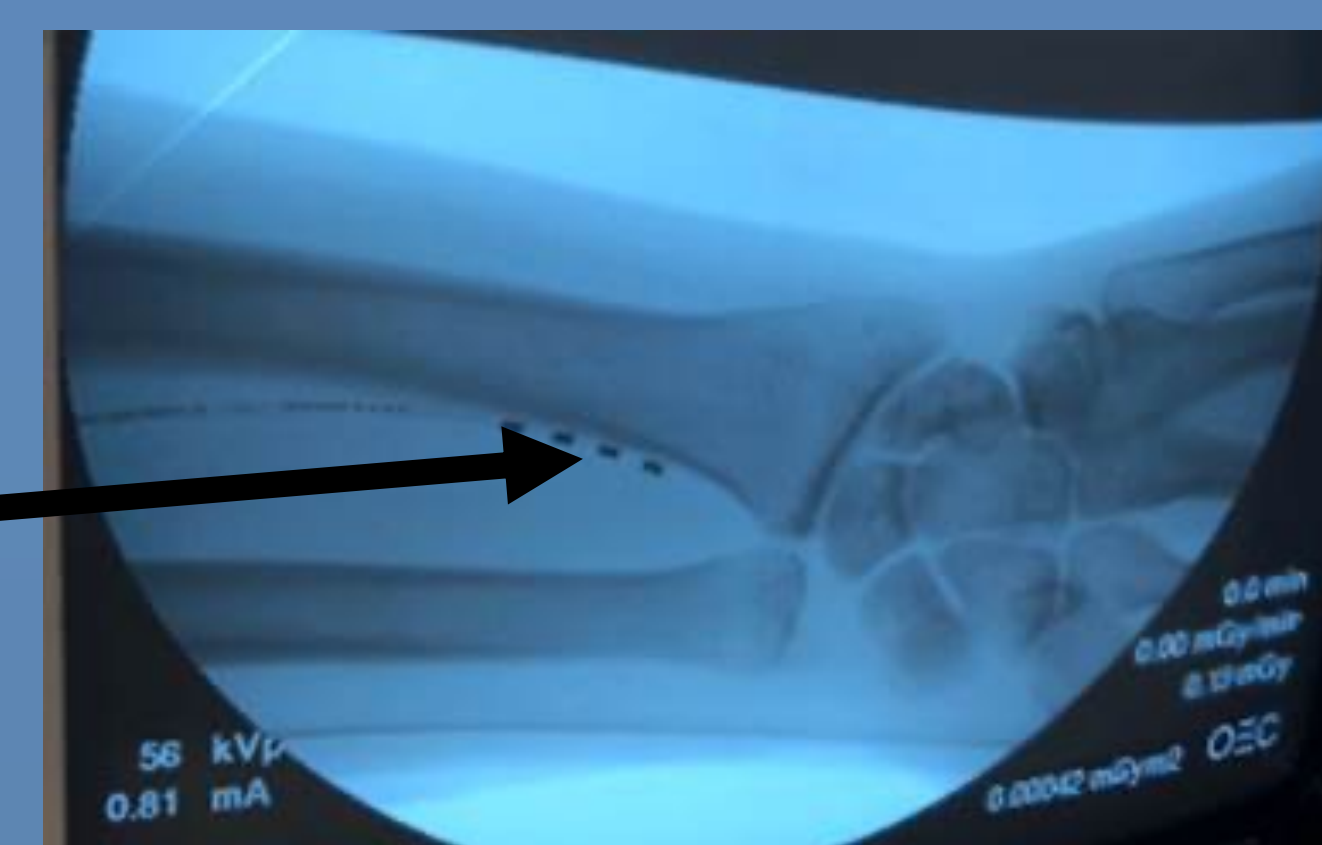
Peripheral nerve stimulators have been progressively gaining traction as a nonsurgical modality for treating chronic pain. While efficacious, it is important to recognize that the incidence of complications can vary between 30% and 40%, with the most common complication being lead migration. [1] In fact, up to 15% of peripheral nerve stimulators are found to migrate. [2] Median nerve stimulator migration, however, has not been well documented. This report illustrates a case of median nerve stimulator migration and highlights symptoms to be cognizant of, as well as a technique to reduce such complication.

Case

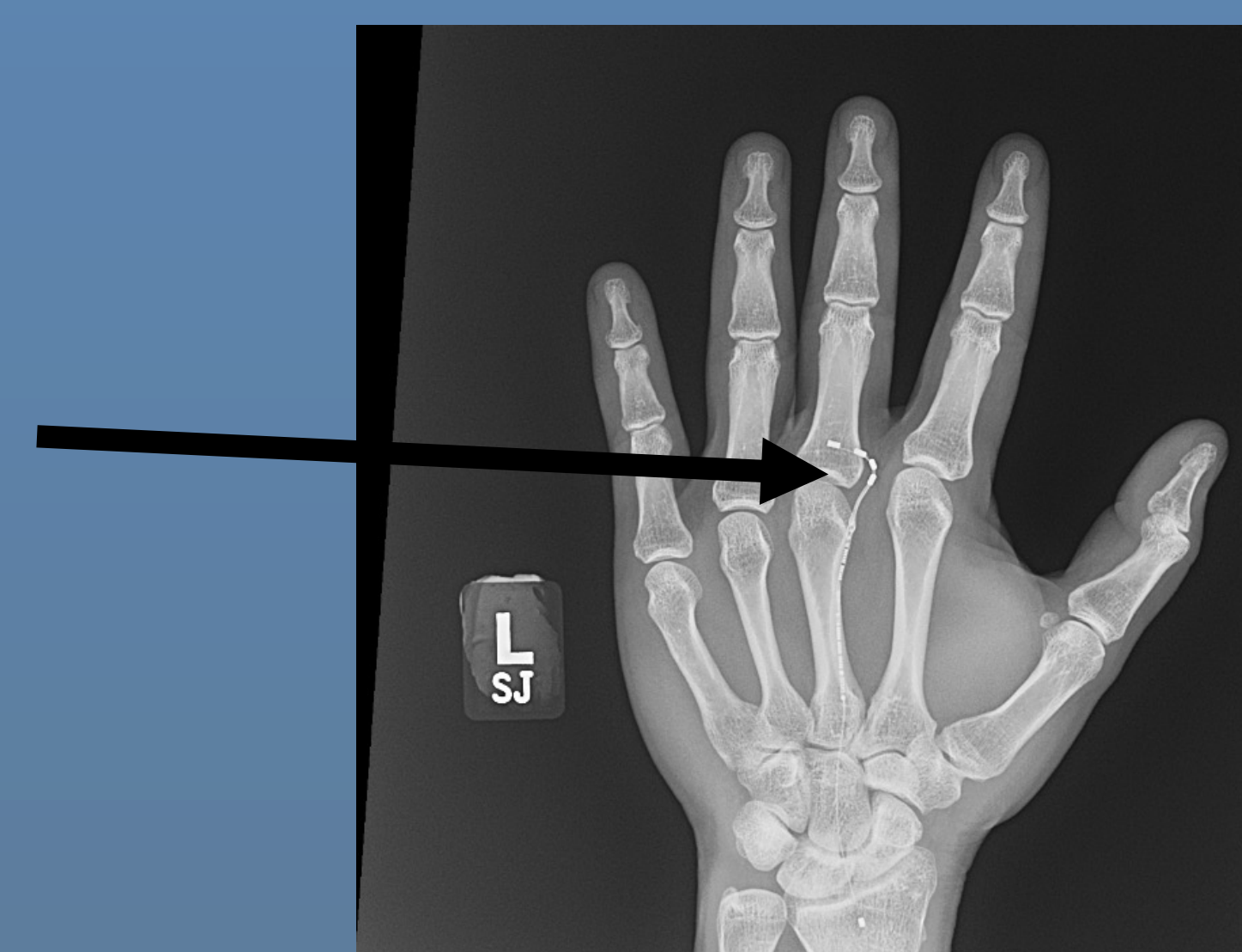
A 39-year-old man with past medical history of HIV on ART and HPV papillomatosis, who required multiple surgeries, was found to have neuropathic pain, worst in left thumb.

- He had median nerve stimulator trial which resulted in 90% relief and subsequently received a permanent peripheral nerve stimulator implant.
- At 2 years post procedure, the patient returned to clinic for palpable leads in the hand and return of pain.
- Patient had to return to the fluoroscopy suite where the proximal end of the lead was located 3-4 cm distal to the palmar crease.

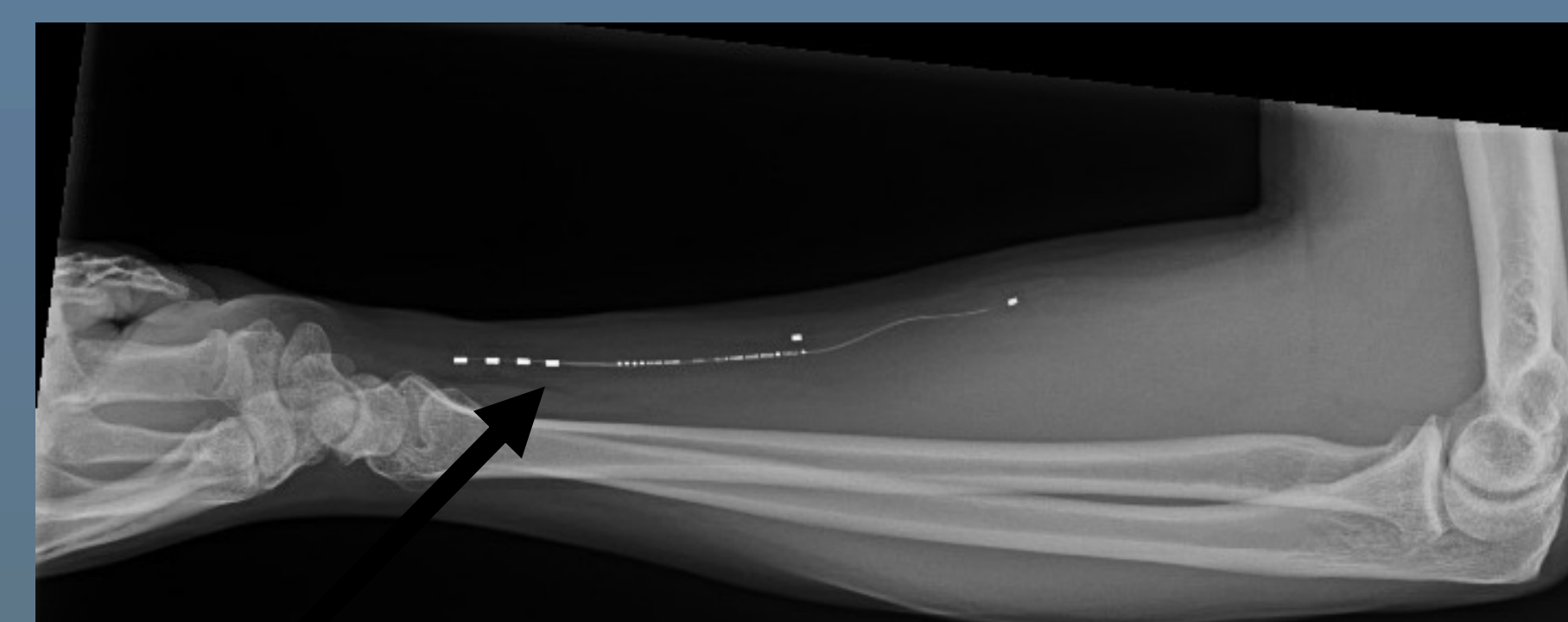
Images



Initial Placement



2 year follow up



Replacement

To anchor the new lead, a 2-0 silk suture tie was placed at the entry point, another 2-0 silk suture tie was placed at the proximal tunneled end, and the tunneled end was also tied unto itself in a knot.

Fixation

The physician must find a way to anchor the leads and try to mitigate this risk. In addition to the technique highlighted by our case, there have also been reported examples of anchoring using mini-plate fixation to the nearest bony prominence. [4] Multiple case studies of spinal cord stimulators discuss using open surgical techniques to anchor leads at a deep fascia level rather than subcutaneous tissue or muscle; however, peripheral nerve stimulators are newer and therefore less is known about how to anchor when there is not as much subcutaneous tissue or muscle. [5]

Discussion

- With PNS, patients typically note a pain reduction of 60% to 70% with nearly 63% of patients being able to completely eliminate opioid use. [2,3]
- Whenever this procedure is being performed, however, it is important to be mindful of potential complications.
- Continued research is required to determine the best methodology for preventing lead migration of peripheral nerve stimulators, but this example will contribute to growing body of work

References

- [1] <https://academic.oup.com/painmedicine/article/17/2/325/2460710>
- [2] [https://www.jhsgo.org/article/S2589-5141\(22\)00001-9/fulltext](https://www.jhsgo.org/article/S2589-5141(22)00001-9/fulltext)
- [3] <https://pubmed.ncbi.nlm.nih.gov/30017972/>
- [4] <https://www.sciencedirect.com/science/article/pii/S0967586821002228>
- [5] <https://onlinelibrary.wiley.com/doi/10.1155/2021/6639801>