

***Pain Relief in Mitochondrial Disorders:
Use of Spinal Cord Stimulation in a
Patient with NARP (Neuropathy,
Ataxia, Retinitis Pigmentosa)
Syndrome***

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INTRO

- NARP (Neuropathy, Ataxia, Retinitis Pigmentosa) syndrome is a mitochondrial disorder
- Most commonly symptoms occur in infancy however they can manifest in childhood or adulthood. EMG findings are predominantly sensory axonal neuropathy primarily effecting the lower extremities
- There is no treatment for NARP and instead therapies primarily focused on symptomatic management

CASE PRESENTATION

- 31 y/o F with NARP syndrome and c/o chronic low back and bilateral lower extremity pain for 12 years
- Initial visit Oswestry Disability Index was 24/50 or 48%
- Patient failed conservative treatments and lumbar medial branch blocks
- Percutaneous SCS trial was performed under moderate conscious IV sedation. Epidural space was accessed at T12-L1 interspace via paramedian approach with loss of resistance to air. Two 8-contact Abbott SCS leads reached the top of the superior endplate of T8. The SCS trial lasted five days total
- implantation was performed at an ambulatory surgery center under monitored anesthesia care (MAC). Epidural space was accessed at T12-L1 via right paramedian approach. Both Touhy needles accessed at T12-L1 to the right. The two 8 contact Abbott leads were then placed at top of the superior endplate of T8 as in the trial. The implantable pulse generator (IPG) selected was the Abbott Eterna by the patient for its size and MRI compatibility.

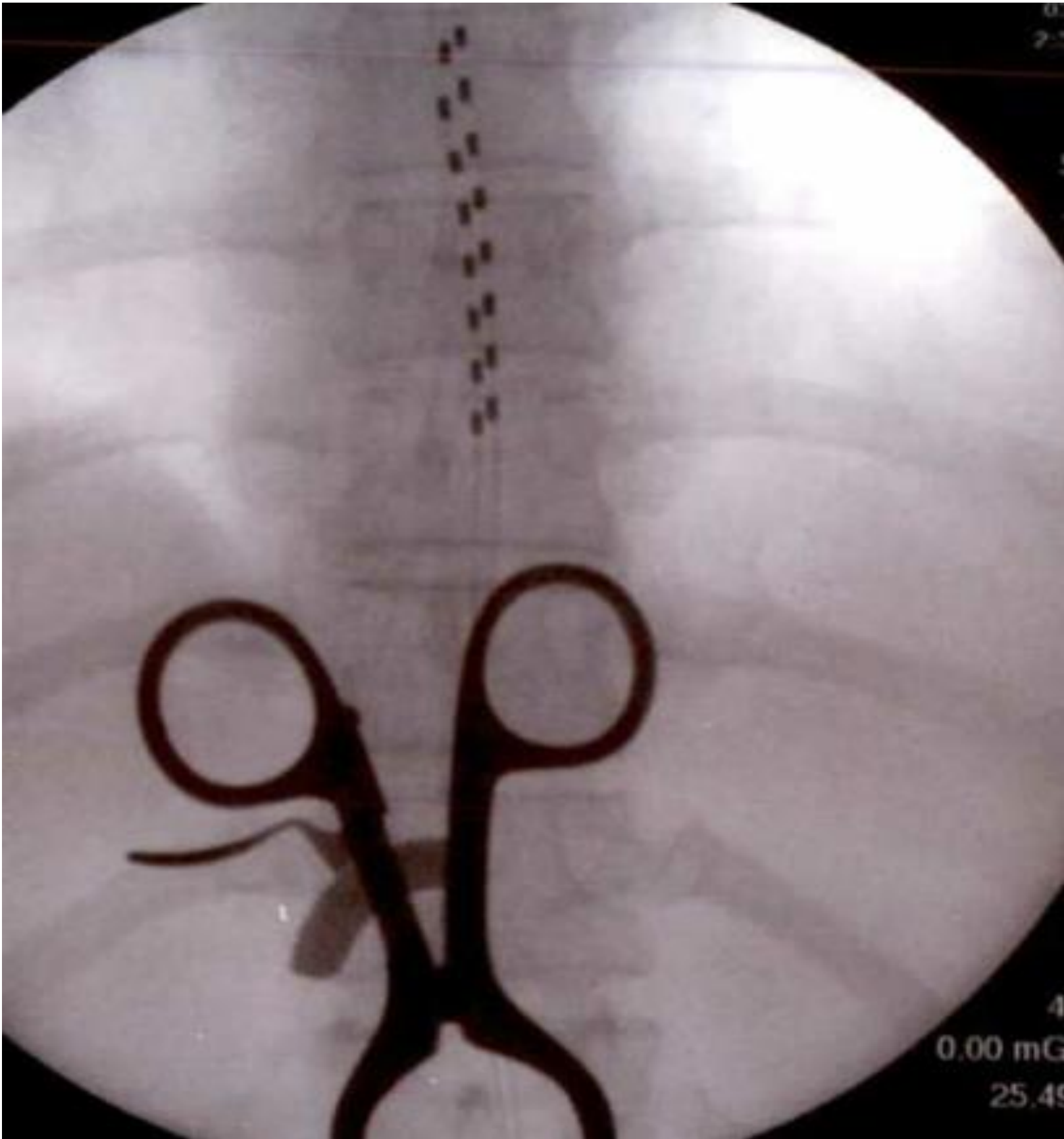
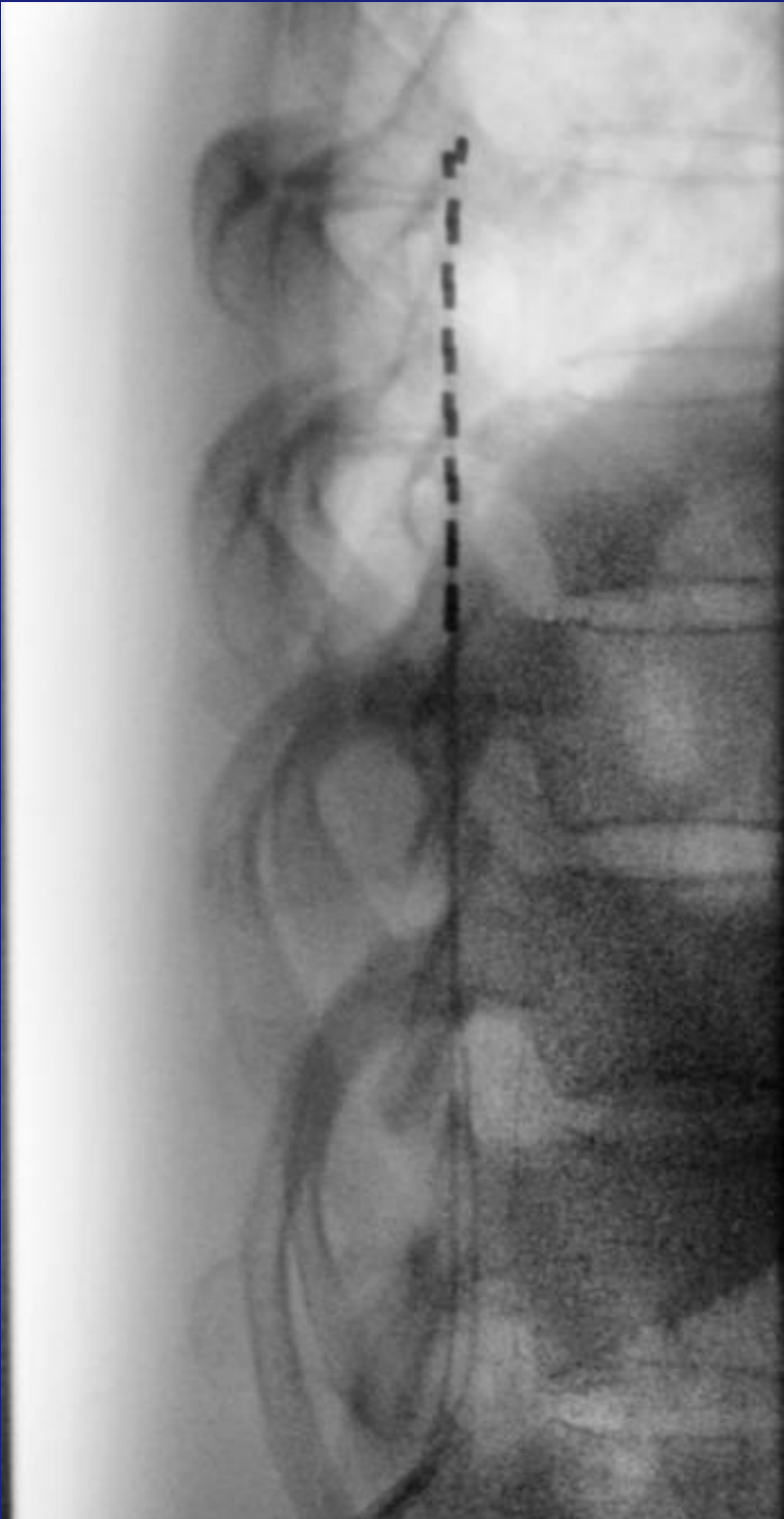
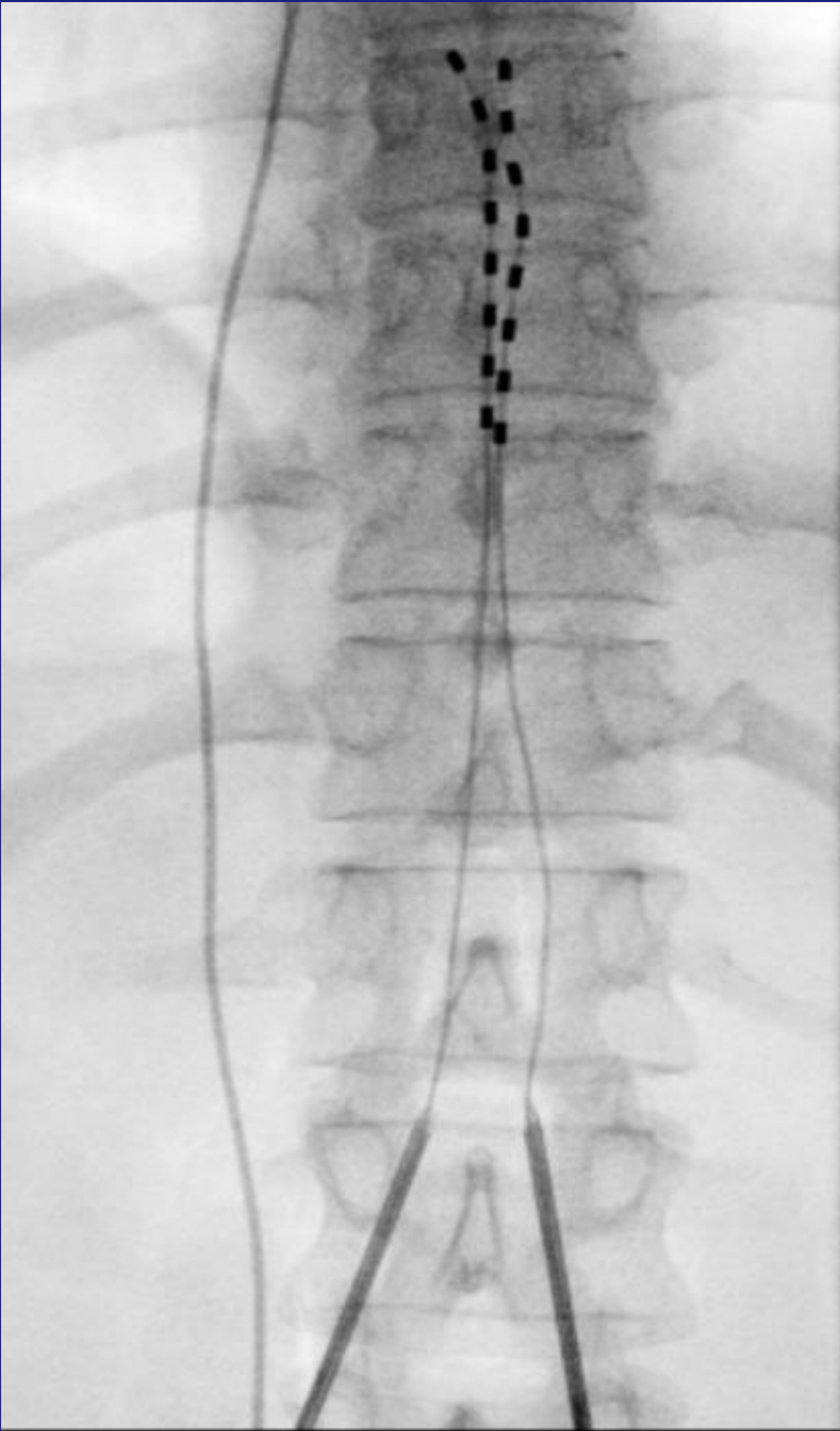
RESULTS

- During trial patient reported 90% reduction in her pain and improvement in overall function and quality of life, sleep was 100% better and activity increased by more than 75%.
- Patient was able to stand and walk for longer durations which allowed her to be more involved in her daughter's care (also has Leigh's Syndrome).
- At 7 months pos implant patient continues to report 90% relief in her back and leg pain with SCS.

No prior case reports of SCS being used in the treatment of chronic pain in patients with neurogenic ataxia retinitis pigmentosa (NARP) Syndrome or Leigh's Disease.

Pt reports >90% relief in pain at 7 months post implant

SCS can be used as a means of pain management in patients with genetic etiologies of chronic pain and therefore is an important demonstration of improvement in the quality of life a patient can experience.



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