

Background

- Intercostal neuralgia is a painful condition characterized by sharp, shooting, or burning pain along the distribution of an intercostal nerve
- Most commonly presents after thoracotomies, breast surgeries, nerve entrapment, neuromas, or with herpes zoster
- Conventional therapies include NSAID's, neuropathic, narcotics, and intercostal nerve blocks
- Case reports have demonstrated that radiofrequency ablations (RFA) can provide benefit to patients refractory to conventional treatments

Case

- 64 year old man presents with chronic right sided rib pain secondary to lung adenocarcinoma treated with radiation therapy
- At initial evaluation, patient was taking 100 mcg/hr fentanyl transdermal patches every three days, daily dose of 40 mg of oxycodone/acetaminophen, and gabapentin 300 mg TID
- Initially responded favorably to intercostal nerve blocks from T7 to T9 with 0.25% bupivacaine and triamcinolone for several months
- Repeat intercostal nerve blocks provided smaller durations of relief for patient
- Thermal RFA was then performed at the T7-9 levels on the right side
- RFA provided long lasting relief which is currently ongoing
- Patient was able to reduce opioid consumption to just 37.5/hr mcg fentanyl patch with complete cessation of his oxycodone/acetaminophen

Images

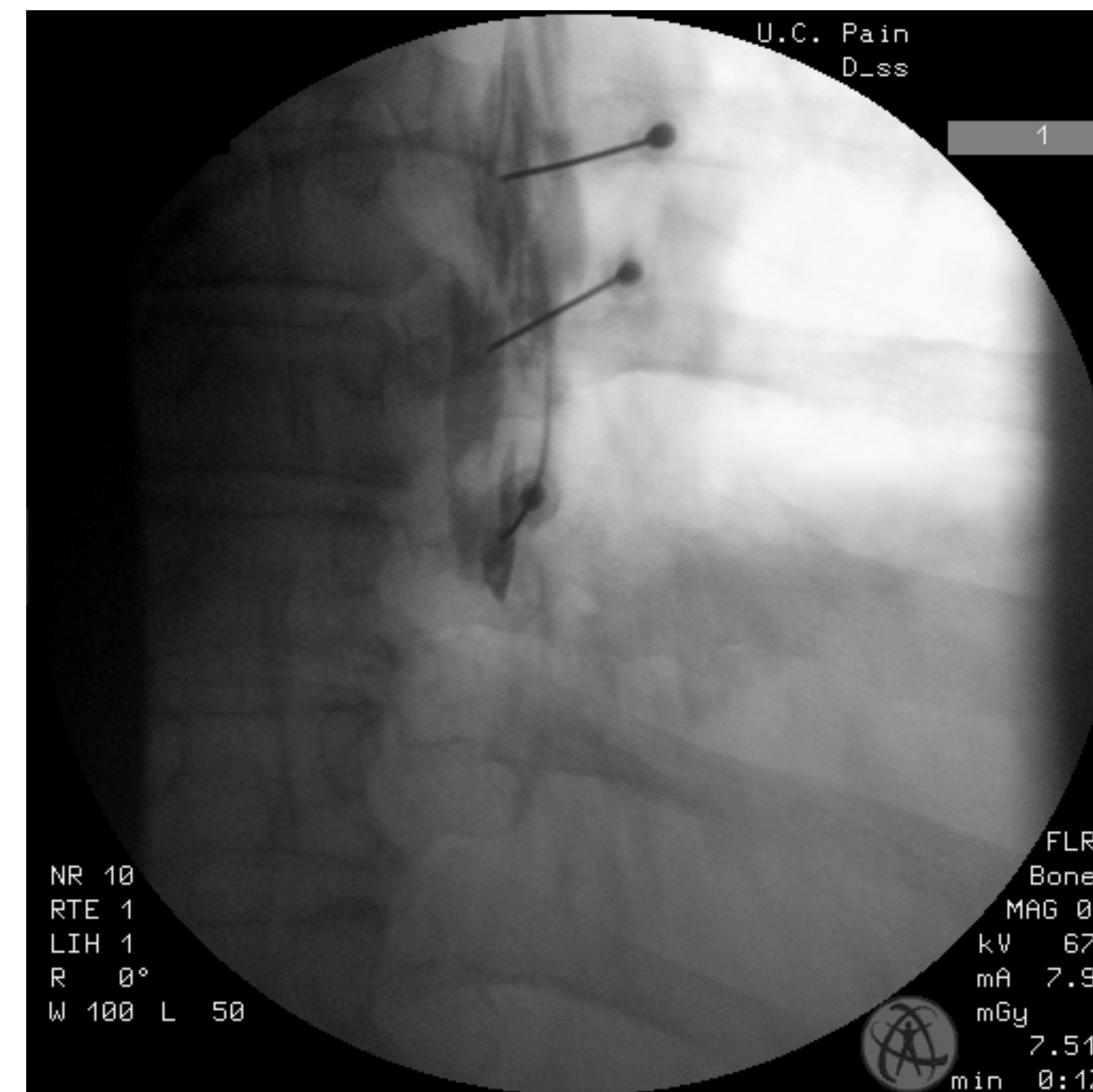


Figure 1A: Initial placement of RFA needles with contrast (Omnipaque) spreading along ribs

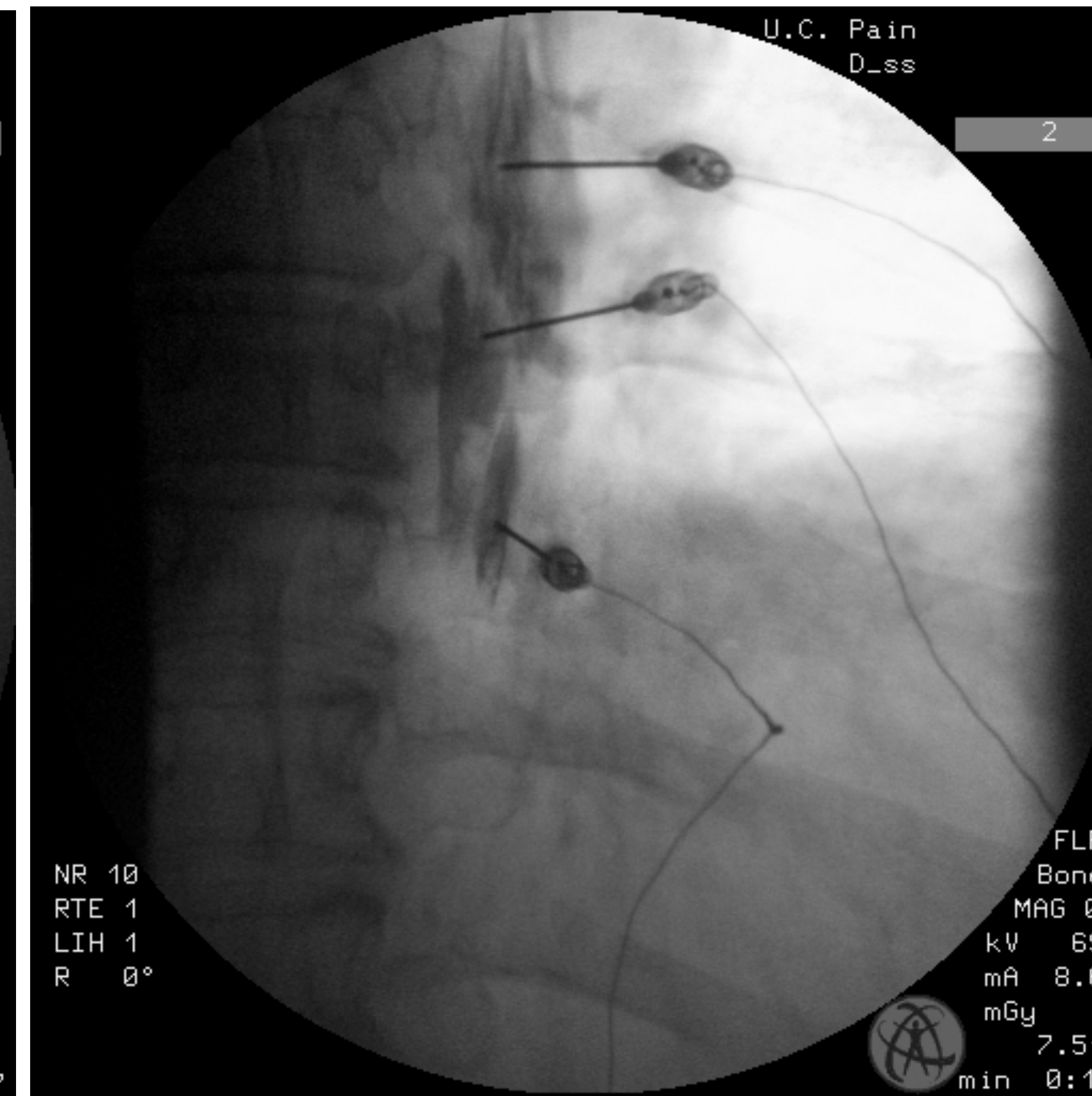


Figure 1B: Placement of RFA needles after insertion of electrode

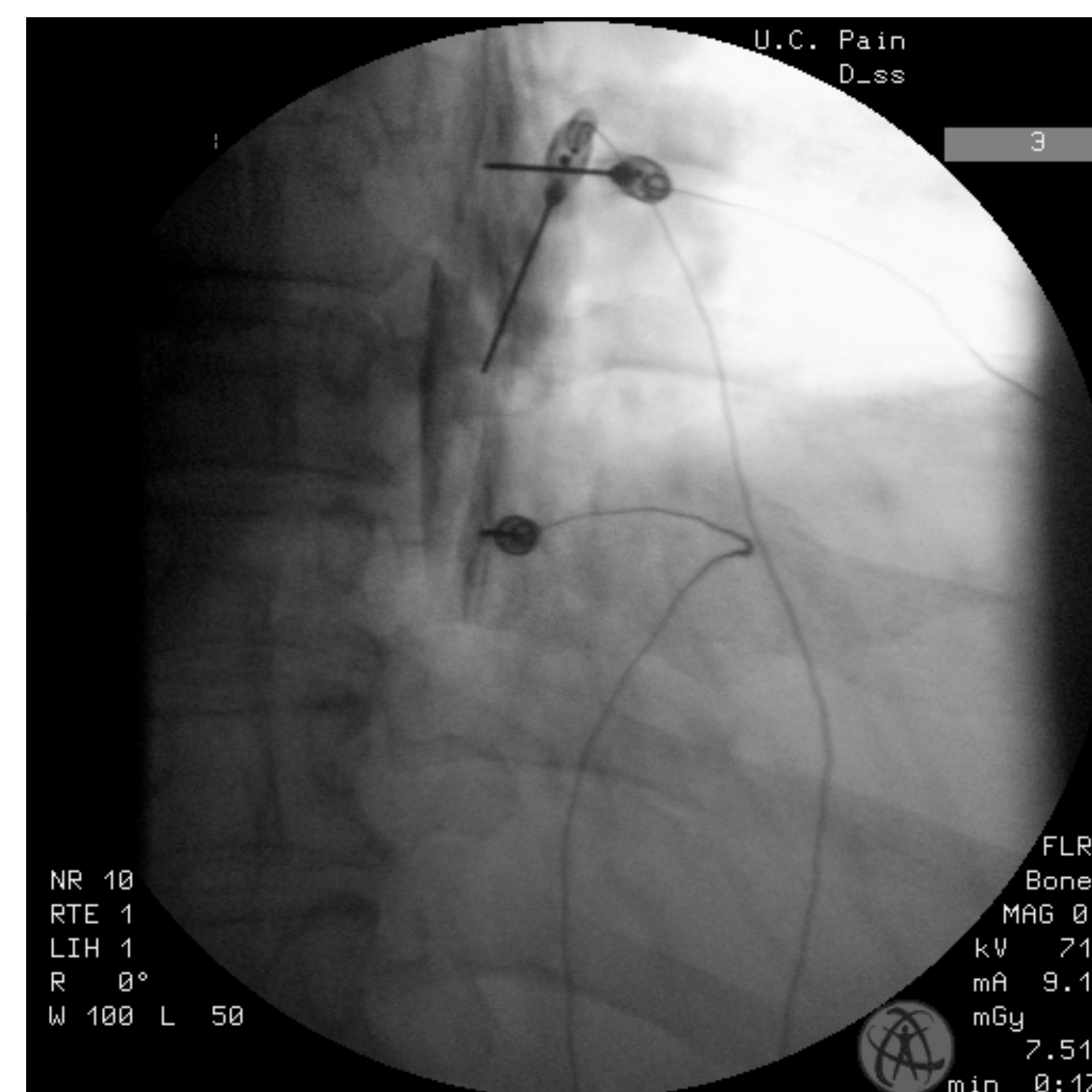


Figure 1C: Final placement of RFA needles after sensory and motor testing

Discussion

- Case demonstrates another potential use of RFA in non-axial pain states
- Literature review up to date has demonstrated at least 14 applications of intercostal RFA with positive and durable outcomes for patients
- Prior case reports predominantly present patients with intercostal neuralgia secondary to surgical sequelae as opposed to radiation or neoplastic induced intercostal neuralgia
- Intercostal RFA was crucial in regards to reducing patients opioid dose from 300 morphine milligram equivalents (MME)/day to 90 MME/day
- Further large scale studies are warranted to further elucidate and define the overall benefits, risks, and potential sequelae of this procedure

References

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- 2)Michaud K, Cooper P, Abd-Elseyed A, Kohan L. Review of Radiofrequency Ablation for Peripheral Nerves. Curr Pain Headache Rep. 2021 Oct 7;25(10):63. doi: 10.1007/s11916-021-00981-0. PMID: 34622328.
- 3)Abd-Elseyed A, Lee S, Jackson M. Radiofrequency Ablation for Treating Resistant Intercostal Neuralgia. Ochsner J. 2018 Spring;18(1):91-93. PMID: 29559878; PMCID: PMC5855433.
- 4)Engel AJ. Utility of intercostal nerve conventional thermal radiofrequency ablations in the injured worker after blunt trauma. Pain Physician. 2012 Sep-Oct;15(5):E711-8. PMID: 22996865.