

A patient experienced refractory neuropathic pain due to a complex 1x2cm upper extremity neuroma.

Mechanical disruption of peripheral nerve continuity achieved long-lasting analgesia.

Ultrasound based macroarchitecture delineation and injection of complex stump neuroma

CASE PRESENTATION

- 43-year-old woman with a history of GSW to the RUE had constant, reproducible stump pain for 12 years managed by opioids.
- Combination of the injury mechanism, history and physical exam findings suggested stump neuroma diagnosis with associated neuropathic pain (Fig. A)
- Scheduled for **ultrasound-guided steroid injection**

SIGNIFICANCE

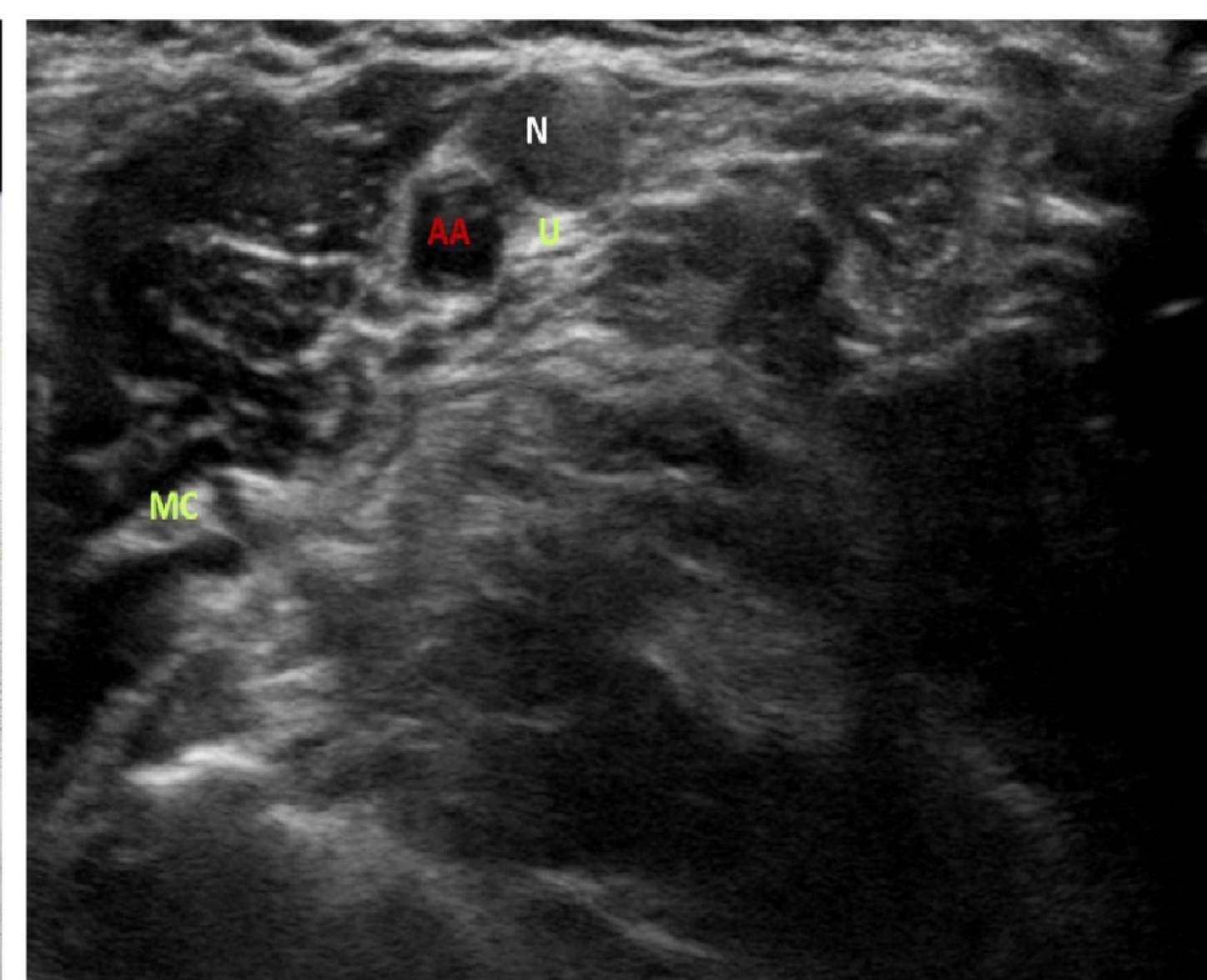
- Literature outlining such treatments does not consistently describe neuroma macroarchitecture, injection technique, or duration of pain relief
- Novel case of a patient with stump pain who underwent two ultrasound-guided neuroma injections via different approaches with each producing different durations of analgesia

FIRST INTERVENTION

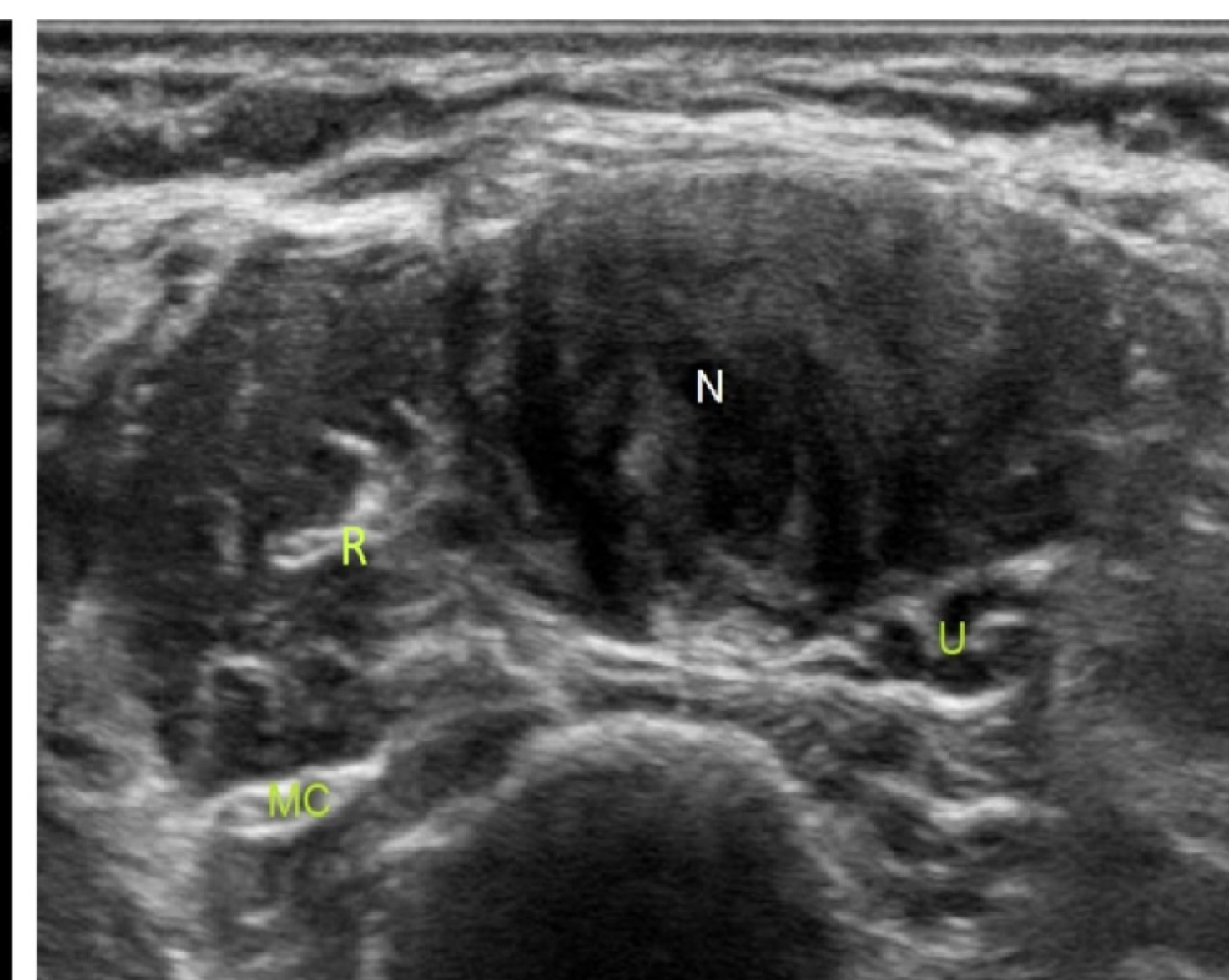
- Prescanned with linear 15-6 MHz probe
- An ovoid hypoechoic structure was revealed maximally at 1 cm x 2 cm with the ulnar nerve in close approximation to and eventually transitioning into the neuroma (Fig. B-D)
- Solution of 1 mL dexamethasone (10 mg/mL) and 9 mL of 0.25% ropivacaine was injected surrounding the ulnar nerve stalk and partially dissecting it away from the neuroma (Fig. E+F)



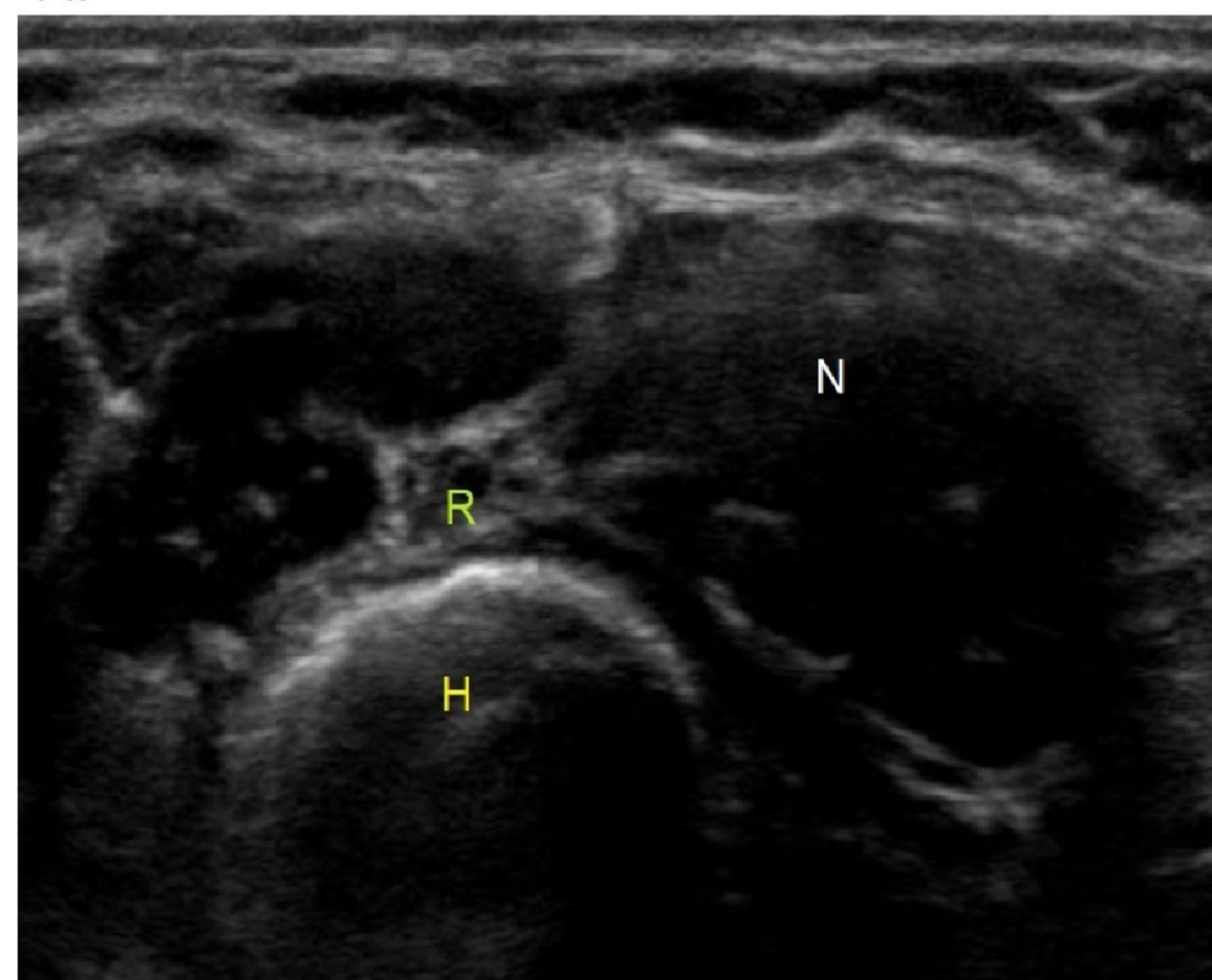
A.



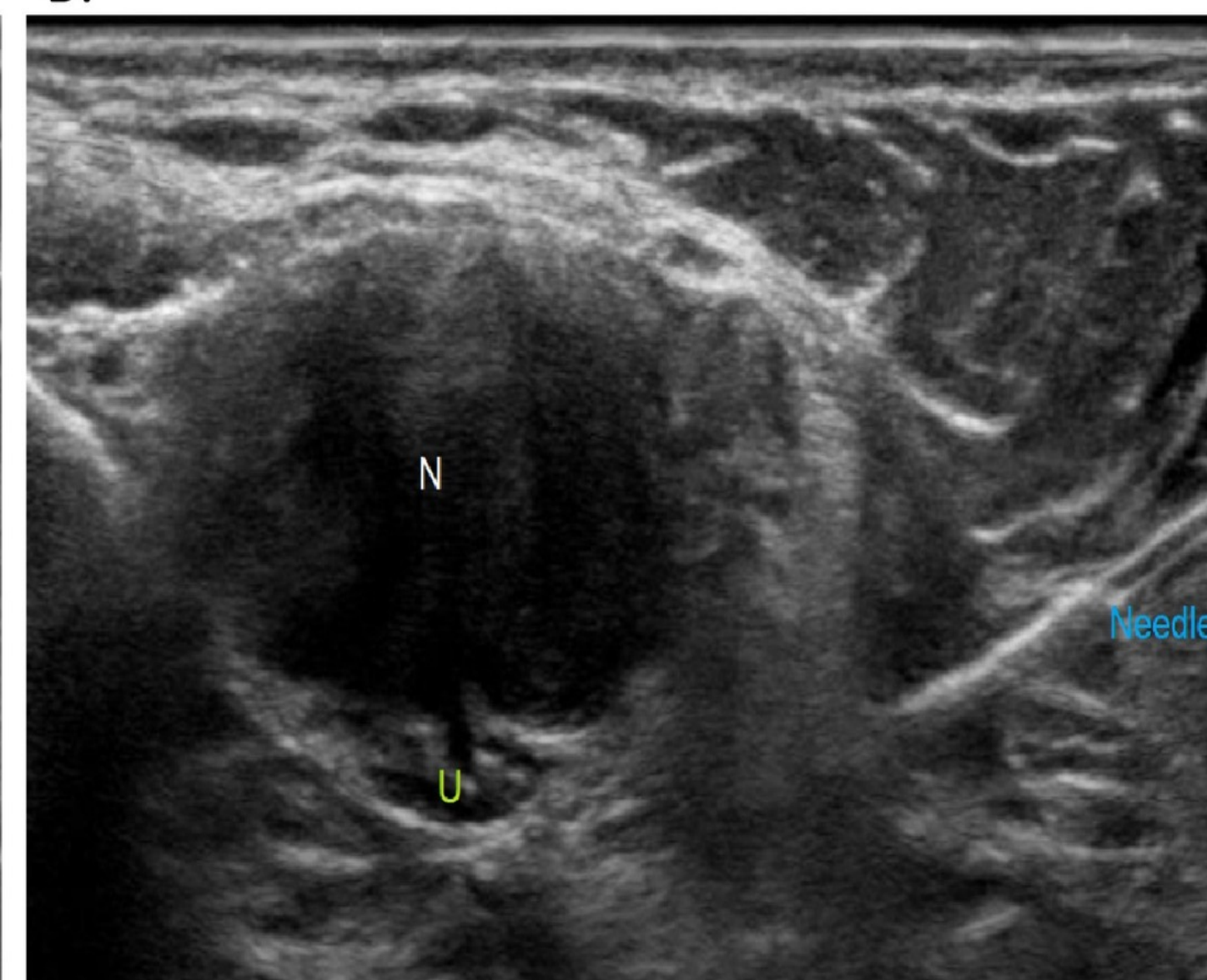
B.



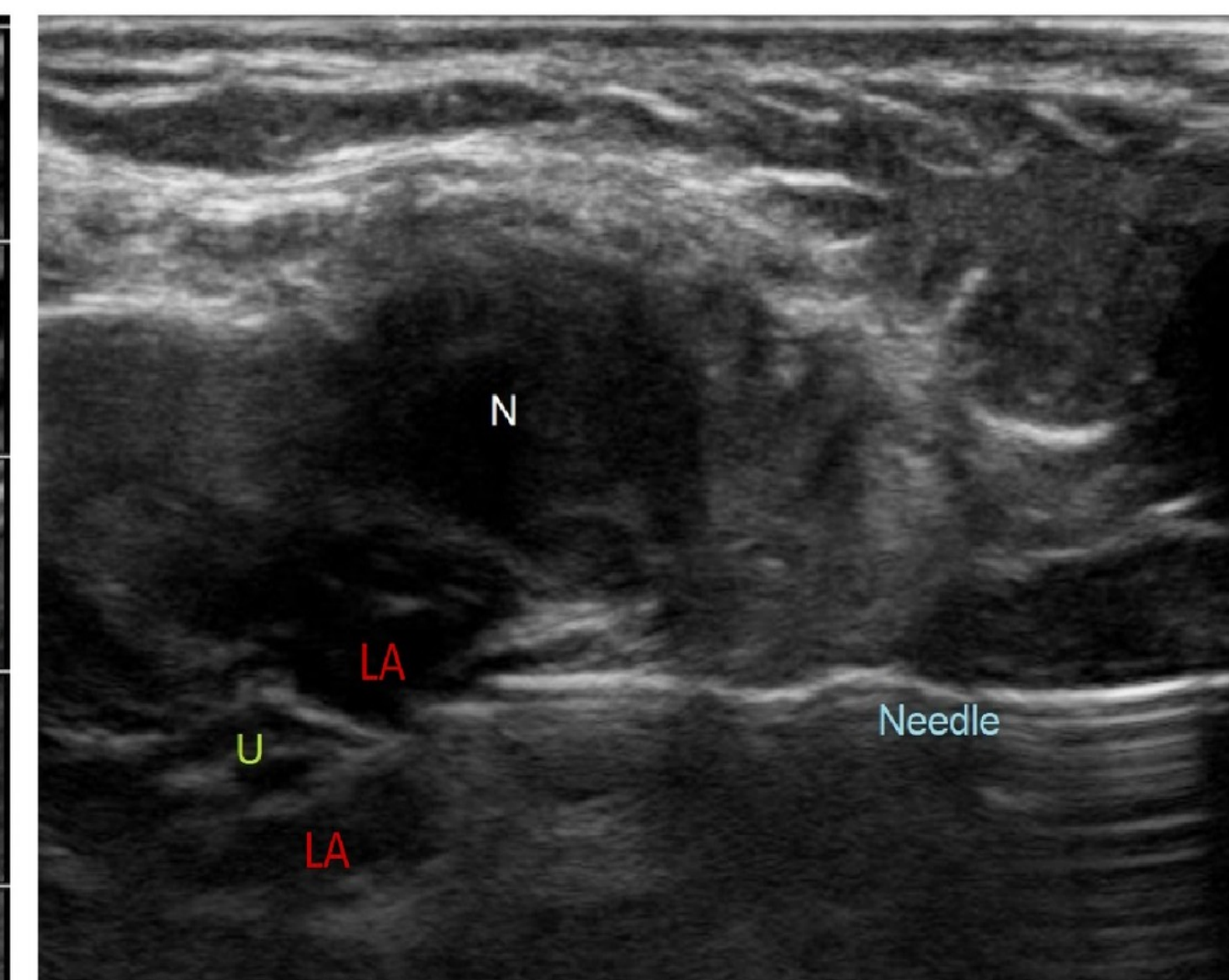
C.



D.



E.



F.

SECOND INTERVENTION

- Lost to follow-up for 2.5 years, represented to the pain clinic requesting second injection and reported 24 months of 100% pain relief
- Sonography findings were consistent with her first presentation
- Injectate deposited peribulbarly without mechanical nerve stalk disruption.
- Patient reported 100% pain relief within 20 min but subsequently reported her pain returned to 50% of her pre-procedure level after 24 h

DISCUSSION

- First injection targeted the supplying nerve and partially separated it from the bulb via hydrodissection
- Separating physiologic nerve from areas of disorganized axonal regeneration may have disrupted pain transmission
- Second injection targeted the perimeter of the axonal bulb
- The shorter duration of relief suggests that mechanical disruption between normal and abnormal nerve may be required to achieve long-lasting results



Take a picture to download the full paper



Chabra Ranjeev, Anand Neelesh, Gray Andrew, Wood Arthur