

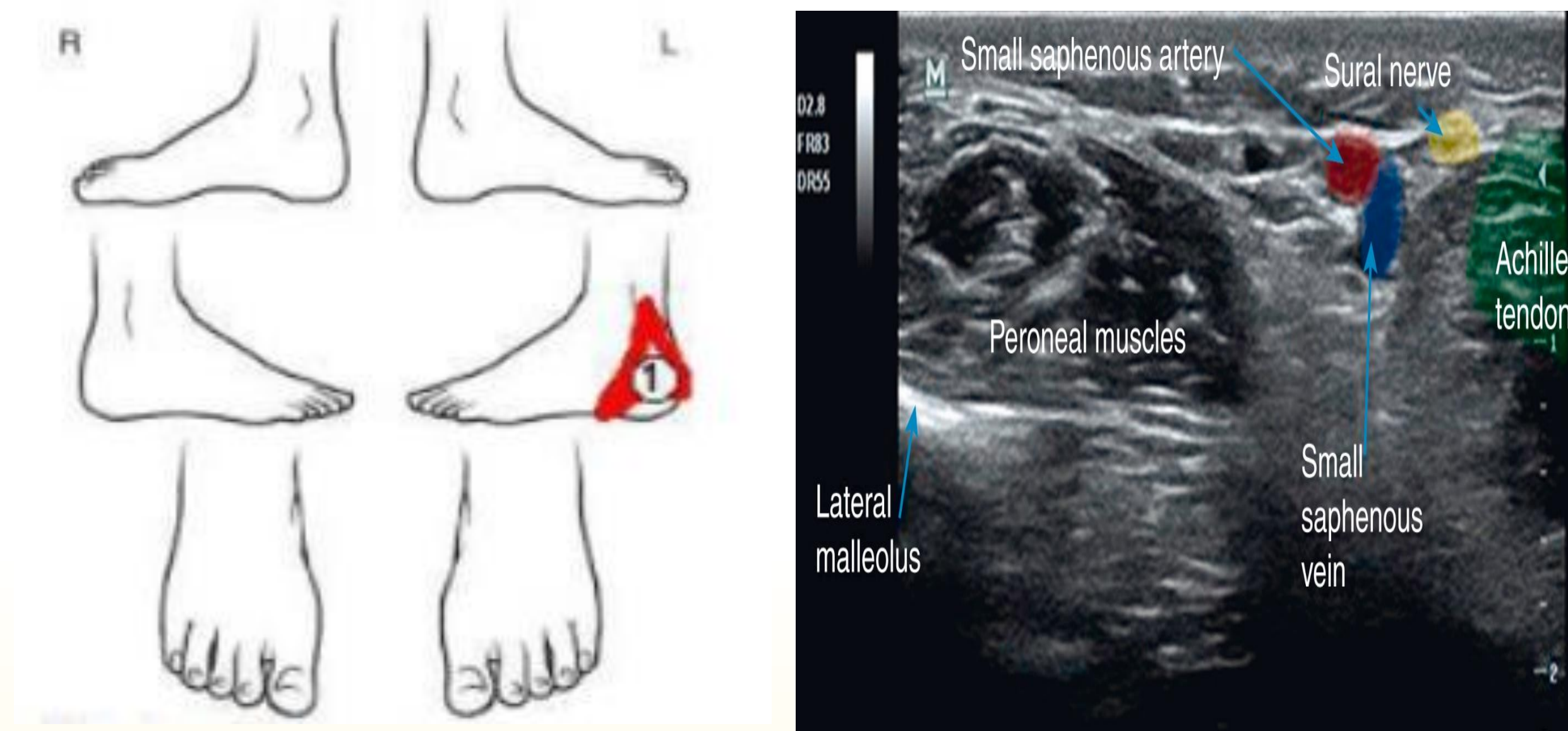
A Case of Repeat Left Sural Pulsed Radiofrequency Ablation in the Treatment of Chronic Left Ankle Pain

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Introduction

Sural neuralgia is a somewhat rare chief complaint among patients presenting to Pain clinic. It may develop secondary to previous trauma/injury, or it may present as a spontaneous, idiopathic occurrence. We present a case of a young female patient with left ankle pain in the distribution of the left sural nerve who underwent left sural pulsed radiofrequency ablation (RFA) with follow-up repeat pulsed RFA 2 years later. This case demonstrates how pulsed RFA, as well as repeat pulsed RFA, can be considered as a viable treatment option for patients with sural neuralgia who fail conservative therapy.



Case Report

- A 32-year-old female with past medical history of astigmatism, diabetes mellitus, fatty liver, hirsutism, hypertension, irregular menses, motor vehicle accident, myopia, obesity, polycystic ovarian syndrome, rectal bleeding, and urgency of urination presented to Pain clinic for chronic left ankle pain which had been present for approximately 7 months. The patient described her pain as aching, sharp, and intermittent, which worsened when walking down stairs.
- The patient originally noticed the pain while walking. Her history is notable for multiple previous stress fractures in her left foot several years prior. She previously had chronic swelling in her left ankle with increased sensitivity to touch which had been improving over time.
- Conservative therapies: She had tried gabapentin therapy for her ankle pain, but this was discontinued due to negative side effects of the medication. Physical therapy had improved her increased ankle sensitivity but not the pain. At the time of presentation to Pain clinic, she was started on lidocaine gel 3-4 times daily in addition to starting Amitriptyline 10mg once nightly.
- Initial sural nerve block: The patient's pain continued over the next few months, and she agreed to try a left sural nerve block injection. She had 100% reduction in her pain lasting for 2 hours. The patient underwent confirmatory repeat left sural nerve block injection again 2 weeks later with resolution of her left ankle pain. She reported 90% reduction in left ankle pain the following day.
- First pulsed sural RFA: Approximately 3 months later, the patient underwent left sural nerve pulsed radiofrequency ablation. At 1-month follow-up, the patient was reporting about 80% improvement in her chronic left ankle pain. The patient then resumed physical therapy for her left foot pain and had excellent pain control for the next 2 years.
- Repeat pulsed sural RFA: Two years after her initial left sural pulsed RFA, her left ankle pain increased back to baseline. It was decided to repeat her left sural nerve pulsed RFA. At follow-up 18 months after her repeat pulsed RFA, she reported 80% improvement in her left ankle pain and improved functionality.

Materials and Methods

- Sural nerve block injections: Patient positioned in supine position. The area between the lateral malleolus and Achilles tendon was identified, and a 25-gauge needle was introduced in the same area in the direction of the lateral malleolus. After negative aspiration, 2ml of 0.25% bupivacaine was injected.
- Sural nerve pulsed radiofrequency ablations: Patient was placed in supine position. Site of the sural nerve between the lateral malleolus and Achilles tendon was identified. Next, 1 % lidocaine was used to anesthetize the skin over this point. Then, a 100 mm RFL needle was placed at this point and directed toward the lateral malleolus. Sensory testing was performed at 50 HZ to confirm stimulation in the distribution of the sural nerve, and then motor stimulation was performed at 2 HZ to confirm no motor stimulation. RF was performed at 80 degrees for 30 seconds. Then another cycle of pulsed RF was performed at 42 degrees Celsius for 120 seconds.

Discussion

- Although sural neuralgia is an uncommon complaint among patients presenting to Pain clinic, the discomfort and impairment in daily function for these patients can be severe.
- If a patient fails conservative therapy like NSAIDs and physical therapy, sural nerve radiofrequency ablation can be considered as a more invasive and long-term solution.
- Like in the patient presented here, sural nerve pulsed RFA has been shown in multiple other case reports to significantly improve patients' chronic ankle pain.^{1,2}
- Our case highlights the possible efficacy of repeating a RFA for a patient who initially responds well to the first pulsed RFA.
- There is a scarcity of data on repeated pulsed RFA in the treatment of sural neuralgia, and further research is warranted into the long-term potential benefit for patients undergoing repeat pulsed RFA for chronic ankle pain.

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