Shockwave Therapy for Painful Notalgia Paresthetica: A Case Report

Aliza Perez, DO[1], Sarah Ibrahim, MD[1], Sundeep Kahlon, MD[1],

Andrew Schafer, DO[2], Parag Sheth, MD[1]

1. Icahn School of Medicine at Mount Sinai; 2. Lakeland Regional Health Medical Center

Icahn School of Medicine at Mount Sinai



INTRODUCTION

Notalgia paresthetica (NP) is a chronic sensory neuropathy typically causing localized unilateral pruritus, burning pain, dysesthesia, or allodynia, most often in the T2–T6 dermatomes. It is thought to result from irritation or entrapment of the thoracic dorsal rami related to degenerative spinal changes or paraspinal dysfunction. There are no FDA-approved therapies, and treatment outcomes are often unsatisfactory. Evidence supporting extracorporeal shockwave therapy (ESWT) for NP remains limited.

CASE DESCRIPTION

A 72-year-old woman with type 2 diabetes mellitus, hypertension, asthma, and gastric ulcer disease presented with left-sided upper thoracic burning pain and superficial "scratch-like" lesions without pruritus. Symptoms worsened with clothing contact, hot water, and sun exposure and improved with cold water. She reported mild baseline burning with approximately 20 severe episodes daily and denied recent environmental changes, trauma, or prior herpes zoster. Dermatology had diagnosed notalgia paresthetica, and rheumatoid factor was negative.

Examination showed bilateral geographic hyperpigmentation of the upper thoracic back, mild thoracic kyphosis, and marked tenderness from C7–T7 and over both scapular regions; despite bilateral skin changes, burning pain remained left-sided. Thoracic radiographs demonstrated mild multilevel disc-space narrowing and degenerative endplate changes without compression fracture or spondylolisthesis. Symptoms persisted despite phototherapy, systemic corticosteroids, neuropathic pain medications, and low-dose topical capsaicin, which caused an eczematous reaction.

MATERIALS & METHODS

Extracorporeal Shockwave Therapy (ESWT) Protocol

1 Clinical Decision
Given refractory symptoms, the patient underwent extracorporeal shockwave therapy (ESWT) to the affected left thoracic paraspinals, carefully avoiding the lung fields.

2 Protocol Basis
The protocol was adapted from a prior study of ESWT for postherpetic neuralgia that demonstrated benefit for neuropathic pain and pruritus.

3 Low-Energy Focused ESWT Parameters
- Energy flux density: 0.07–0.20 mJ/mm²
- Frequency: 5 Hz
- Impulses per session: 2,000–2,500

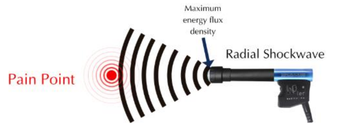
4 Session Components

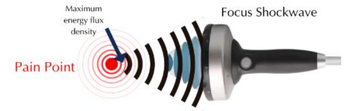
Radial Component	Focused Component
2,500 impulses at 0.3 mJ/mm²	2,000 focused impulses at 0.07–0.10 mJ/mm²

5 Treatment Course
Six sessions were completed.

6 Outcome Assessment
Symptom intensity, frequency, and clinical response were assessed during treatment and at 12-week follow-up.

Patient informed consent was obtained for submission of this case report.



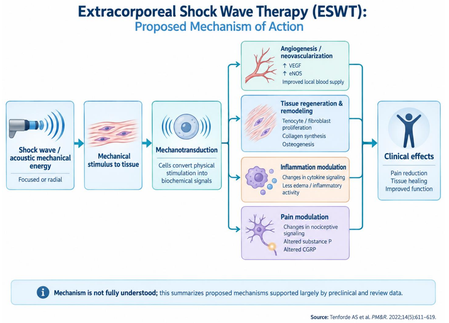




REFERENCES

1. Yosipovitch G, Kohli I, Draelos ZD, et al. Notalgia paresthetica: clinical features, burden of disease, and treatment satisfaction from a survey of dermatologists. *Dermatol Ther (Heidelb).* 2024;14(8):1907-1920.
2.Savk O, Savk E, Bolukbasi O, Culhaci N, Dikicioglu E. Notalgia paresthetica: a study on pathogenesis. Int J Dermatol. 2000;39(10):754-759.
3.Robinson C, Downs E, Gomez YDC, Nduaguba C, Woolley P, Varrassi G, et al. Notalgia paresthetica review: update on presentation, pathophysiology, and treatment. *Clin Pract.* 2023;13(1):315-325. doi:10.3390/clinpract13010029.
4.Howard M, Sahhar L, Andrews F, Bergman R, Gin D. Treatment options for notalgia paresthetica: a systematic review. *J Am Acad Dermatol.* 2020;82(5):1238-1244.
5.Chen L, Qing A, Zhu T, Yang P and Ye L (2022) Effect and safety of extracorporeal shockwave therapy for postherpetic neuralgia: A randomized single-blind clinical study. Front. Neurol. 13:948024. doi: 10.3389/fneur.2022.948024

SHOCKWAVE



RESULTS

Following ESWT, she reported progressive reductions in symptom intensity and frequency, reaching approximately 90% improvement in both after six sessions. At 12 weeks, improvement persisted, with less burning and better sleep and quality of life compared with baseline.

DISCUSSION

This case highlights an atypical presentation of NP with unilateral burning pain and dysesthesia without pruritus, despite bilateral cutaneous changes. After failure of conventional therapies, left-sided ESWT was associated with substantial, sustained symptomatic improvement.

Given limited evidence for ESWT in NP but prior benefit in other neuropathic pain conditions, these findings suggest a potential noninvasive treatment for refractory NP. Further studies should evaluate efficacy, optimal treatment parameters, and long-term durability.