

Notalgia Paresthetica: Case Report

Emily Garelick, BS¹, David Kasper, DO, MBA, FAAD, FAOCD²
¹ Philadelphia College of Osteopathic Medicine, Philadelphia, PA, USA
² Dermatology and Skin Cancer Institute/Jefferson Health System, Philadelphia, PA, USA

ABSTRACT

- Notalgia paresthetica (NP) is a dermatologic condition that causes pruritus of the skin on the medial border of the inferior scapula and/or upper back.
- It is a chronic neurologic dysesthesia that can be caused by pain from nerve fiber damage at the thoracic spine, levels two to six.
- Patients can also experience paresthesia, allodynia, and pruritus that is exacerbated by heat.
- Thoracic nerve impingement may be responsible for this problem, specifically herniated intervertebral discs, vertebral changes, and osteoarthritic lesions.
- Multiple methods of treatment have been reported to be effective including topical steroids and anesthetics, oral gabapentin and antihistamines, and osteopathic manipulative treatment (OMT).
- A case of a 50-year-old male with notalgia paresthetica who has undergone osteopathic manipulation.
- Osteopathic manipulation in addition to stretching and proper posture was shown to be effective for the patient to alleviate the symptoms.
- Stress management is a new recommendation for patients to help reduce their symptoms of NP.
- The noted treatments have been able to provide patients with short-term or immediate relief of symptoms, but a long-term solution or cure has yet to be determined.

INTRODUCTION

- Notalgia paresthetica is a chronic neuropathic dysesthesia of the back that consists of pruritus, pain, and discomfort.
- It is caused by nerve fiber damage to the posterior rami of the thoracic spine at levels T2 to T6 that penetrate through the surrounding muscles.¹
- The exact etiology of notalgia paresthetica is unknown.
- Compression to the thoracic nerves in this area has been reported, most commonly due to degenerative vertebral changes and herniated discs, resulting in radiculopathy.
- There have also been peripheral causes documented, including muscle spasms that compress itch sensitive nerves.²
- The pruritus and pain that patients feel is typically located on the lower two-thirds of the scapula.
- This can present bilaterally, but is most common along the scapula contralateral to the dominant hand.
- Patients often present with tingling, itching, numbness, and hyperpigmentation secondary to scratching.²
- In this report, we present a 50-year old male who presented with progressive pruritus and tingling on the left side of the back, over the medial scapula.

CASE DESCRIPTION

- A 50-year-old white male presented to the clinic with complaints of pruritus and tingling overlying the left medial scapula that was aggravated by prolonged movement.
- The patient denied any history of dermatitis in this area.
- The patient stated he had poor posture and previous football and rugby injuries to the neck and back.
- Symptoms gradually worsened and have been present over the course of months.
- Symptoms are aggravated with certain postures, stress and movements, such as raising his arms.
- Symptoms resolve when arms are lowered or the inciting stressor is removed.
- No particular incident led to the onset of his symptoms
- Denied sleep disturbances due to this condition, but complained of the symptoms causing some distraction throughout the day.
- His medical history was unremarkable.
- He occasionally consumed alcohol socially and denied tobacco and illicit drug use.
- His family history was negative for autoimmune disease, but he had a brother with lymphoma.
- On physical exam, there were no significant dermatologic findings (Figure 1).
- Osteopathic structural exam: no tenderness to paraspinal muscles in the thoracic region and full passive range of motion for flexion, extension, side-bending, and rotation to the left and right.
- It was found that at the level of T3, the transverse processes were rotated to the right and sidebent left, assuming a neutral type I somatic dysfunction.
- Patient was diagnosis with notalgia paresthetica.
- Patient underwent osteopathic manipulative treatments: myofascial release, soft tissue, and muscle energy techniques.
- Patient worked to improve his posture and performed stretching and strengthening exercises to his upper back and neck muscles.
- Symptoms eventually lessened, but flared after stopping his treatments, stretching, and exercising.
- Patient now is symptom free after adhering to a constant stretching and exercise program.



Figure 1. Posterior view of 50-year old male with notalgia paresthetica. No physical abnormalities identified during examination.

DISCUSSION

- Patients with notalgia paresthetica are often referred to dermatologists due to constant pruritus with or without skin changes.
- Symptoms can be unilateral or along the entire upper back or affected areas.
- Skin changes can include hyperpigmentation to thickened plaques.
- Diagnosis is made based on symptoms and usually no biopsy is necessary.
- Most common treatment options (Figure 2)
 - Oral gabapentin^{2,3}
 - Oral antihistamines²
 - Topical steroids⁴
 - Topical anesthetics⁴
 - Botulinum toxin A⁴
 - Osteopathic manipulative treatment
- Treatment may be helpful to temporarily reduce pruritus, but NP is usually chronic and requires long-term use.
- Osteopathic manipulative treatment is an additional treatment option that is not used as commonly for this condition, however it has been shown to alleviate discomfort and reduce pruritus.⁵
 - OMT may provide longer-lasting relief and avoidance of tolerance to certain medications.
- Recommended OMT techniques for NP:
 - Muscle energy in the upper thoracic and cervical regions
 - Soft tissue techniques to direct pressure over the left scapular region to reduce pain as well as myofascial release
 - Suboccipital release can be used to normalize parasympathetic nerves and rib raising to normalize sympathetic nerves
- Stress can commonly cause a tightening of muscles that is sometimes not released until the stress is no longer present.⁶
 - Occupational or home stress may cause a tightening of the upper back muscles and contribute to the pain the patient is experiencing from NP
- Stress management:
 - Maintain a healthy lifestyle by exercising regularly and getting good rest⁶

Recommended Treatment Algorithm Notalgia Paresthetica

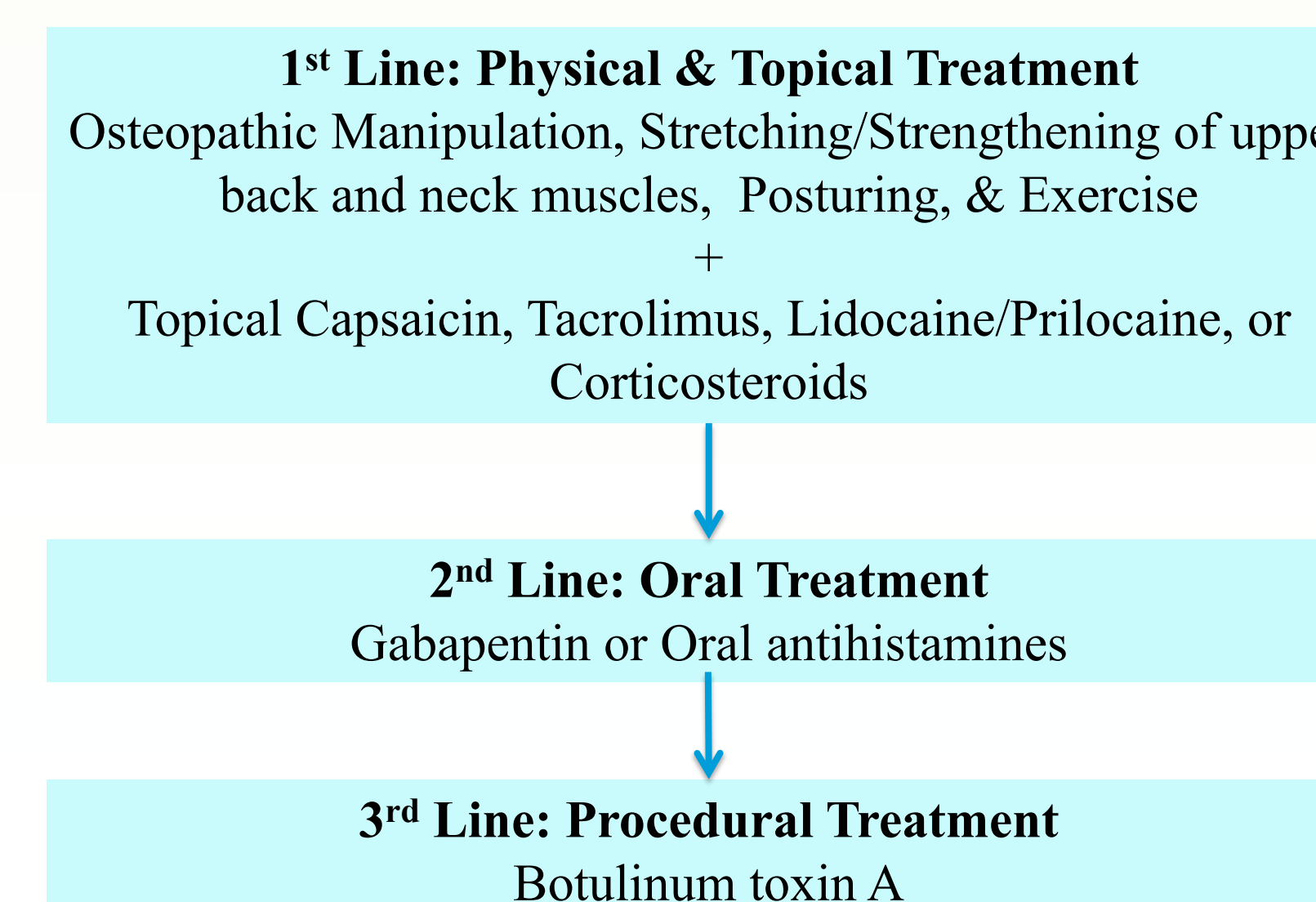


Figure 2. Treatment algorithm recommended for patients with NP.

CONCLUSION

- Notalgia paresthetica is a relatively common disorder.
- It is challenging to treat due to its unclear etiology and chronicity.
- There are many methods of treatment, but most treatment options lessen the symptoms, which improve patients' quality of life rather than resolving the condition.
- Osteopathic manipulation may be used to replace or reduce the usage of oral or topical medications in patients suffering from NP.
- In addition to OMT, stress management, postural improvement, and at-home strengthening exercises may help with long-term relief of NP.

REFERENCES

1. Pleet AB, Massey EW. Notalgia paresthetica. *Neurology*. 1978;28(12):1310-1312. doi:10.1212/wnl.28.12.1310
2. Robbins BA, Rayi A, Ferrer-Bruker SJ. Notalgia Paresthetica. In: *StatPearls*. Treasure Island (FL): StatPearls Publishing; June 5, 2023.
3. Loosemore MP, Bordeaux JS, Bernhard JD. Gabapentin treatment for notalgia paresthetica, a common isolated peripheral sensory neuropathy. *J Eur Acad Dermatol Venereol*. 2007;21(10):1440-1441. doi:10.1111/j.1468-3083.2007.02256.x
4. Ansari A, Weinstein D, Sami N. Notalgia paresthetica: treatment review and algorithmic approach. *J Dermatolog Treat*. 2020;31(4):424-432. doi:10.1080/09546634.2019.1603360
5. Richardson BS, Way BV, Speece AJ 3rd. Osteopathic manipulative treatment in the management of notalgia paresthetica. *J Am Osteopath Assoc*. 2009;109(11):605-608.
6. American Psychological Association. (8 Mar 2023). *Stress effects on the body*. American Psychological Association. <https://www.apa.org/topics/stress/body#:~:text=Muscle%20tension%20is%20almost%20a,less%20constant%20state%20of%20guardedness.>

ACKNOWLEDGEMENT

- Thank you to our patient for allowing us permission to write up this case study