



Case Report

Copyright © All rights are reserved by Ali Gürbüz

A Rare Cause of Back Pain Notalgia Paresthetica: Case Report and A Literature Review

Ali Gürbüz* and Mustafa Gür¹Department of Physical Therapy and Rehabilitation, Elazığ Fethi Sekin City Hospital, Turkey²Department of Physical Therapy and Rehabilitation, Division of Rheumatology, Firat University Hospital, Turkey***Corresponding author:** Ali Gürbüz, Department of Physical Therapy and Rehabilitation, Elazığ Fethi Sekin City Hospital, Turkey.**Received Date:** March 06, 2023**Published Date:** March 23, 2023

Introduction

Notalgia paresthetica is a rare disease with coexisting itching, discoloration, paresthesia, hyperesthesia, hypoesthesia and neuropathic pain, not included in the neuropathic pain classifications and can be missed. Notalgia paresthetica which is a special form of the paresthetic neuralgia group was first described by the Russian neurologist Astwazaturow in 1934 [1]. Notalgia paresthetica is a rare disease usually seen in white people. The disease is generally found between the ages of 50-60, being 2-3 times more common in women [2]. Notalgia paresthetica (NP) is a neuropathy of the dorsal branches of the thoracic spinal nerves, especially T2-T6 with unknown causes. It is a chronic disease generally seen in the elderly and women. Although its etiology is unknown, it is thought to result from posterior spinal nerves compression or chronic nerve trauma. In addition, increased dermal innervation, viscerocutaneous reflex mechanisms, and activation of neurotoxic mediators are other mechanisms being responsible [3].

Keywords: Neuropathic pain; Paresthesia; Back pain; Multiple endocrine neoplasms; Hyperpigmented macular lesion

Case Report

A 65-year-old female patient was applied to the Physical Medicine and Rehabilitation (PTR) outpatient clinic with a two-year history of back pain and itching. In her history, she stated using various pain medications she could not remember irregularly but did not benefit much. There was no additional disease in her personal and family history except osteoporosis. On inspection, there was a 3x5 cm hyperpigmented macular lesion at the lower end of the right scapula (Figure 1). An increase in thoracic kyphosis was present in posture examination. Neck movements were limited and painful at the end of the motion in the locomotor system

examination. Hypoesthesia in the area of the skin lesion was detected in her neurological examination. Muscle strength and reflex examinations and other systemic examinations were normal.

In the radiographic evaluation, there were signs of a slight increase in thoracic kyphosis, spondylosis and and compression fracture in T9 vertebra on dorsal MRI (Figure 2,3). The L1-L4 T score was -4.5, the L2-L4 T score was -4.9, the femoral neck T score was -2.8 and the femur total T score was -2.2 as the result of the dexta scan.

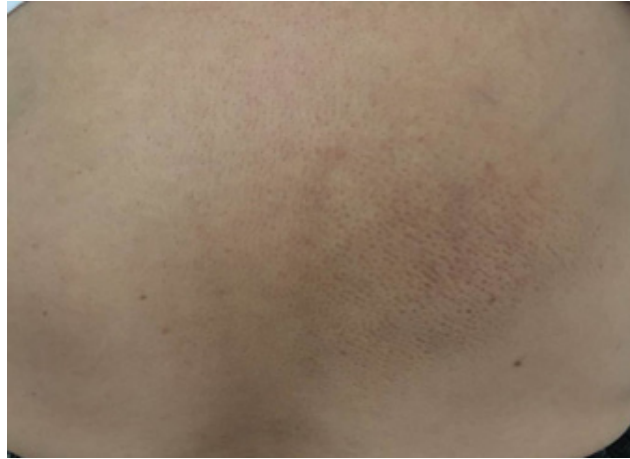


Figure 1: There was a 3x5 cm hyperpigmented macular lesion at the lower end of the right scapula.

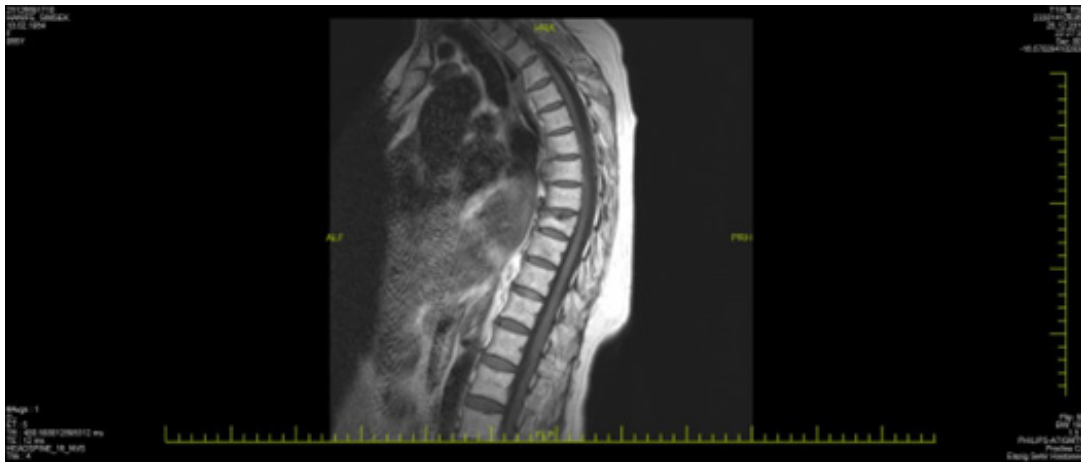


Figure 2: T9 vertebral compression fracture on T1 sequence MR image.



Figure 3: T9 vertebral compression fracture on T2 sequence MR image.

Clobetasol 17-propionate cream 2 times/day treatment was started with the diagnosis of notalgia paresthetica. Gabapentin (starting with 300 mg/day and gradually increasing to 1200 mg/day) was started for neuropathic pain, and an inpatient physical therapy and rehabilitation program was practiced for 15 days. Alendronate 70 mg week, calcium and vitamin D were started for the patient who was evaluated as postmenopausal osteoporosis. The patient's LANSS pain scale score, pain DETECT pain score, and VAS were evaluated as, respectively, 20 points, 22 points and 7 points at the time of application. In the sixth month of the treatment of the patient in our follow-up, the patient's LANSS pain scale score, pain DETECT pain score, and VAS were evaluated as, respectively, 13 points, 15 points, and 5 points. After the treatment, the patient's complaints of pain, paresthesia and skin lesion decreased.

Discussion

Notalgia paresthetica is a disease with coexisting neuropathic pain and skin involvement but the etiology hasn't been clarified. Neuropathic pain is the pain which occurs directly because of peripheral or central nervous system dysfunction without stimulation of nociceptors (pain receptors in nerve terminals). The problem is due to the abnormal processing of perception and often seen in patients with neurological deficits. "Nociceptive" pain which is a different pain state from neuropathic pain is the feeling of pain as a physiological response to a tissue damage that causes pain; trauma or inflammatory conditions could be examples. Neurogenic pain includes pain caused by "transient" disorders or lesions of the peripheral or central nervous system while neuropathic pain does not include "transient disorders" and, thus, indicates irreversible, long-term conditions [4]. In our case, our patient was followed up with pain DETECT pain questionnaire, the LANSS pain questionnaire, and VAS scores. Our patient complied with the neuropathic pain classification with these scores, and an improvement was observed in these scores with treatment.

Although the cause of the disease is not clear, compression or trauma-related damage to the posterior branches of the T2-T6 thoracic spinal nerves stands out as the most important etiological factor. Pleet stated that spinal nerves originating from T2-T6 thoracic vertebra cut transverse spinal muscles at 90° angle, making these nerves very vulnerable to minor traumas [2]. The pathogenesis of the disease was tried to be explained by stating that the internal branches of the posterior spinal nerve which is responsible for the sensory innervation of T2-T8 dermatomes are easily compressed between these bones because they are very close to the thoracic vertebrae [5]. Long-term bed rest after a trauma or a surgical operation may also cause notalgia paresthetica as a result of nerve compression [6]. Diabetes mellitus should be routinely investigated in patients with notalgia paresthetics. In addition, nutritional disorders, multiple endocrine neoplasms and psychological disorders should also be considered. Etiopathogenesis covers a wide spectrum from tactile, traumatic and neurological stimuli to paraneoplastic effects [1]. In our case, there was no underlying malignancy or any disease, but it was determined that the patient always slept in the same position in his sleeping habits. It should be kept in mind that chronic pressure can also trigger notalgia

paresthesia.

In the differential diagnosis of the disease, there are diseases such as primary cutaneous amyloidosis, post-inflammatory hyperpigmentation, frictional melanosis, lichen simplex chronicus, fixed drug eruption, multiple endocrine neoplasia and atopic dermatitis [7]. These patients who can apply to many branches especially apply to the dermatology outpatient clinic. Our patient, however, applied to our outpatient clinic because of the prominent neuropathic complaints, and was consulted with the dermatology clinic to exclude differential diagnoses, and the patient was diagnosed with notalgia paresthetics.

Topical local anesthetics, capsaicin, topical or intralesional corticosteroids and topical antipruritics might be beneficial in the treatment of cutaneous indications of notalgia paresthetics [1,8]. H. Ochi et al. were reported 7 cases of notalgia paresthetica treated with topical tacrolimus application [9]. Botulinum toxin injections as another treatment method may also be beneficial [10]. In systemic treatment, anti-epileptic drugs which are used in the treatment of neuropathic pain can be used, such as gabapentin and oxcarbazepine [11,12]. In a case report with notalgia paresthetics by Subaşı et al., the patient was treated with dry needling, kinesio taping and gabapentin, and a decrease was observed in the patient's VAS score and LANSS scores [13].

In their study about the validity of the pain detect test used on our patient, Alkan et al. concluded that it is a reliable and valid scale used to determine the neuropathic component of chronic pain in Turkish patients [14]. Bennett et al. argued that the LANSS pain score will guide the association of neuropathic pain with clinical findings in patients with sensory dysfunction in the clinical setting [15]. In this study, we aimed to draw attention to the use of these questionnaires to distinguish the neuropathic origin of pain and to monitor neuropathic pain in patients with notalgia paresthetics.

In conclusion, notalgia paresthetica is a disease in which cutaneous involvement is prominent and accompanied by neuropathic pain so it can easily be overlooked by physicians. Notalgia paresthetica is not included in the neuropathic pain classification and it is a rare disease in dermatology and physical medicine practice. Although the treatment of this disease is not difficult, attention should be paid to its differential diagnosis. In these patients, serious diseases like multiple endocrine neoplasia and cutaneous amyloidosis should be considered in terms of differential diagnosis. The neuropathic pain component of the disease can be followed up with the LANSS pain questionnaire, pain DETECT pain questionnaire and VAS scores and can be instructive in the treatment.

Funding Source

None.

Conflicts Of Interest

The authors have nothing to disclose.

Acknowledgment

None.

References

1. Cerroni L, Kopera D, Soyer HP, Kerl H (1993) Notalgia paraesthetica, "posterior pigmented pruritic patch" und makulöse Amyloidose. *Hautarzt* 44: 777-780.
2. Odom RB, James WD, Berger TG (2000) *Andrews' Diseases of the Skin Clinical Dermatology-Pruritus and neurocutaneous dermatoses*. 9th edition. USA. W.B. Saunders Company: 56-64.
3. Raison-Peyron N, Meunier L, Acevedo M, Meynadier J (1999) Notalgia paresthetica: Clinical, physio pathological and therapeutic aspects. A study of 12 cases. *J Eur Acad Dermatol Venereol* 12: 215-221.
4. Bebek N, Ertas M (2007) Neuropathic pain. *Pain* 19: 5-10
5. Raison-Peyron N, Meunier L, Acevedo M, Meynadier J (1999) Notalgia paresthetica: clinical, physio pathological and therapeutic aspects. A study of 12 cases. *J Eur Acad Dermatol Venereol* 12: 215-221.
6. Goulden V, Hight AS, Shamy HK (1994) Notalgia paresthetica-report of an association with macular amyloidosis. *Clin Exp Dermatol* 19: 346-349.
7. Savk O, Savk E (2005) Investigation of spinal pathology in notalgia paresthetica. *J Am Acad Dermatol* 52: 1085-1087.
8. Eisenberg E, Barmeir E, Bergman R (1997) Notalgia paresthetica associated with nerve root impingement. *J Am Acad Dermatol* 37: 998-1000.
9. Ochi H, Tan LX, Tey HL (2016) Notalgia paresthetica: Treatment with topical tacrolimus. *J Eur Acad Dermatol Venereol* 30: 452-454.
10. Weinfeld PK (2007) Successful Treatment of Notalgia Paresthetica with Botulinum Toxin Type A. *Arch Dermatol* 143: 980-982.
11. Loosemore MP, Bordeaux JS, Bernhard JD (2007) Gabapentin treatment for notalgia paresthetica, a common isolated peripheral sensory neuropathy. *J Eur Acad Dermatol Venereol* 21: 1440-1441.
12. Savk E, Bolukbasi O, Akyol A, Karaman G (2001) Open pilot study on oxcarbazepine for the treatment of notalgia paresthetica. *J Am Acad Dermatol* 45: 630-632.
13. Subası V, Çakır T, Atasoy MF (2016) Efficacy of dry needling and kinesiotaping combination in the treatment of notalgia paresthetica: a case report. *Turk J Phys Med Rehab* 62: 273-276.
14. Alkan H, Ardic F, Erdogan C, Sahin F, Sarsan A, et al. (2013) Turkish version of the pain DETECT questionnaire in the assessment of neuropathic pain: a validity and reliability study. *Pain Medical* 14(12): 1933-1944.
15. Bennett M (2001) The LANSS Pain Scale: the Leeds assessment of neuropathic symptoms and signs. *Pain* 92: 147-157.