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ERECTOR SPINAE PLANE BLOCK AS A RESCUE THERAPY IN CHRONIC POSTHERPETIC NEURALGIA: A CASE REPORT

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ABSTRAK

Neuralgia Pasca Herpes (NPH) merupakan nyeri neuropatik menetap pasca Herpes Zoster, terutama pada usia lanjut. Dilaporkan kasus pria 70 tahun dengan NPH 2 bulan pasca HZ, mengalami nyeri terbakar dan berdenyut di dermatom torakal T11–12 kanan dengan skala nyeri 8/10, bersifat paroksismal hingga 10 kali/hari, dipicu sentuhan, dan mengganggu tidur. Nyeri tidak responsif terhadap gabapentin 1.800 mg/hari dan amitriptilin 12,5 mg/hari. Dua kali injeksi perineural Dextrose 5% menurunkan nyeri menjadi 6/10. Pada minggu ke-13, dilakukan blok bidang erektor spinae terpandu USG di tingkat T12 menggunakan lidokain 2% (10 ml) dan deksametason 5 mg, yang menurunkan nyeri cepat dari 6/10 menjadi 0/10, dengan perbaikan berkelanjutan dan penghentian obat. Tidak ditemukan komplikasi. Kasus ini menunjukkan blok erektor spinae sebagai terapi penyelamatan yang aman, minimal invasif, dan efektif pada NPH refrakter.

ABSTRACT

Erector Spinae Plane Block As A Rescue Therapy In Chronic Postherpetic Neuralgia: A Case Report. Postherpetic Neuralgia (PHN) is a persistent neuropathic pain following Herpes Zoster, particularly in the elderly. A case is reported of a 70-year-old man with PHN two months after HZ, experiencing burning and throbbing pain in the right T11 – 12 thoracic dermatomes with a pain scale of 8/10, paroxysmal in nature up to 10 times/day, triggered by touch, and disturbing sleep. The pain was unresponsive to gabapentin 1,800 mg/day and amitriptyline 12.5 mg/day. Two perineural injections of 5% dextrose reduced the pain to 6/10. At week 13, an ultrasound-guided erector spinae plane block was performed at the T12 level using 2% lidocaine (10 mL) and dexamethasone 5 mg, which rapidly reduced the pain from 6/10 to 0/10, with sustained improvement and discontinuation of medication. No complications were found. This case shows the erector spinae plane block as a safe, minimally invasive, and effective rescue therapy for refractory PHN.

INTRODUCTION

Postherpetic neuralgia (PHN) is a common chronic complication of Herpes zoster infection, characterized by persistent neuropathic pain followed by the healing of skin lesions. This condition can cause significant impairment in quality of life due to severe pain, sleep disturbance, depression, and functional limitations and predominantly affects elderly individuals. The reported incidence of PHN varies widely, ranging from 5% to 50%, depending on study design, patient age, and diagnostic criteria.

The pathogenesis of PHN involves latent Varicella-zoster virus reactivation within the dorsal root ganglia, causing inflammation, demyelination, and damage to sensory neurons. Severe, acute pain during the initial phase of herpes zoster is one of the strongest predictors for the development of PHN. Therefore, early and aggressive pain management is crucial to prevent worsening of chronic pain.

Conventional management includes antiviral therapy, analgesics, and neuromodulatory agents such as gabapentin or pregabalin. However, a substantial number of patients experience refractory pain despite optimal pharmacological therapy, where interventional pain management approach is necessary. One of the most promising techniques developed in recent years is the Erector Spinae Plane Block (ESPB) — an interfascial plane block first described by Forero et al. in 2016. This block is done by injection of local anesthetic between the fascia of the erector spinae muscle and the transverse process, creating analgesia through blockade of the dorsal and ventral rami of spinal nerves.

Several studies have demonstrated the effectiveness of ESPB in relieving both acute and chronic pain associated with herpes zoster; however, the magnitude of pain reduction, as measured by the Numerical Rating Scale (NRS), varies across studies depending on patient characteristics, disease phase, and block technique. Aydın et al. (2019) reported a rapid decrease in pain intensity from a median NRS score of 9 to 1.5 immediately after the block, with analgesic effects lasting up to three months. More recently, Patil et al. (2024) found that ESPB combined with standard therapy reduced the incidence of PHN from 80% in the control group to 45%, while also improving patients' quality of life. Likewise, a 2025 meta-analysis by Fujimura et al. confirmed that ESPB reduces pain intensity significantly for up to 12 weeks and decreased both analgesic consumption and the risk of developing PHN (RR = 0.49; 95% CI 0.28 – 0.85).

Compared to other interventional approaches such as paravertebral or epidural blocks, ESPB offers several advantages, including ease of ultrasound-guided administration, broad dermatomal coverage, and a decreased risk of complications such as pneumothorax or hypotension.

Based on these findings, the ESPB represents an effective, safe, and minimally invasive interventional option for pain management in Postherpetic Neuralgia, especially in elderly patients or those unable to tolerate systemic medications. In this case report, we describe a 70-year-old male with a history of Herpes zoster who underwent an ultrasound-guided ESP block using 10 mL of lidocaine and 1 mL of dexamethasone, achieving significant clinical improvement with a reduction of the Numerical Rating Scale (NRS) from 10 to 3 and complete discontinuation of pharmacologic analgesics.

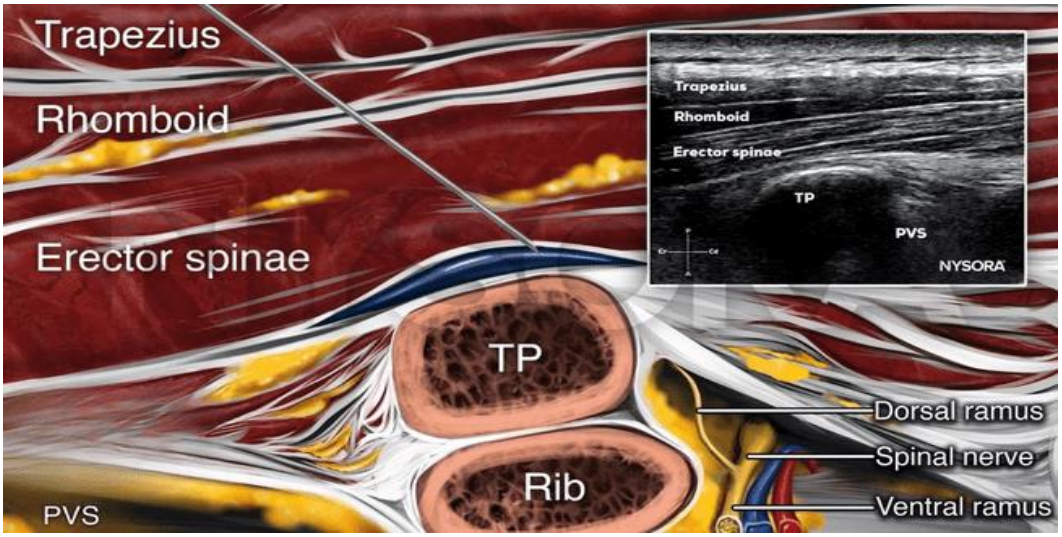

Figure 1. Erector spinae block mechanism

MATERIAL AND METHODS

Pain Assessment

Pain intensity was assessed using the Numerical Rating Scale (NRS), ranging from 0 (no pain) to 10 (worst imaginable pain). NRS scores were recorded at baseline, after each therapeutic intervention, and during follow-up visits. Changes in pain intensity were used to evaluate treatment response.

CASE REPORT

A 70-year-old male presented to the neurology pain clinic with persistent neuropathic pain following herpes zoster involving the right T11–T12 dermatomes. The herpes zoster eruption began on July 11 (week 0) and resolved with residual pain. The patient had no history of diabetes mellitus, malignancy, immunosuppressive conditions, or prior chronic pain disorders. No significant medical comorbidities were reported.

At week 6 after herpes zoster onset, the patient complained of severe burning, throbbing, and radiating pain along the right T11–T12 dermatomes, accompanied by marked allodynia. Pain intensity was rated as NRS 8/10 at rest and worsened with light touch or contact with clothing, resulting in significant sleep disturbance. Neurological examination revealed hypersensitivity and allodynia over the affected dermatomes without motor weakness, sensory loss, or autonomic dysfunction. Deep tendon reflexes were preserved.

Initial pharmacological management included gabapentin, titrated up to 600 mg three times daily (1,800 mg/day), and amitriptyline 12.5 mg nightly. Despite maximal tolerated doses, pain persisted at NRS 6, with frequent paroxysmal attacks occurring up to 10 times per day.

At week 8, the patient underwent two sessions of perineural injection therapy using 5% dextrose, resulting in partial improvement with reduced attack frequency but persistent neuropathic pain (NRS 6).

At week 13 after herpes zoster onset, given refractory symptoms, an ultrasound-guided erector spinae plane block was performed at the right T12 level using 10 mL of 2% lidocaine and 1 mL of dexamethasone (5 mg). Immediately after the procedure, pain intensity decreased to NRS 0.

During follow-up, the analgesic effect was sustained for at least 13 weeks after the ESP block, with complete resolution of paroxysmal attacks, restoration of normal sleep, and independent performance of daily activities. These improvements were sustained throughout the 13-week follow-up period Gabapentin and amitriptyline were completely discontinued without pain recurrence. No procedure-related complications were observed.

Figure 2. Right T11–T12 dermatome lesion Post Herpes

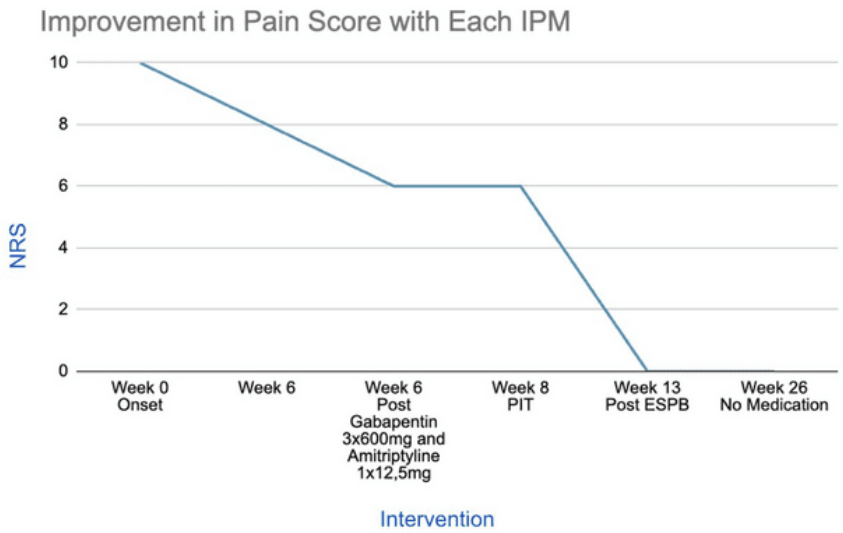

Figure 3. Improvement in Pain Score with Each IPM

Figure 4. USG guided erector spinae plane block (ESPB)

DISCUSSION

Postherpetic neuralgia (PHN) is one of the most common chronic complications of herpes zoster infection and represents one of the most challenging forms of neuropathic pain to treat. This condition often persists even after the cutaneous lesions have healed, significantly impairing quality of life, particularly among elderly patients.8 The present case describes a 70-year-old male with a history of herpes zoster since July 11, 2025, who continued to experience severe pain (NRS 10) despite maximal pharmacologic therapy with gabapentin 600 mg three times daily. Following an erector spinae plane block (ESPB) performed on October 20, 2025, the patient reported a marked reduction in pain intensity (NRS 3), and within two days after the procedure, he no longer required gabapentin.

It is important to distinguish the role of erector spinae plane block (ESPB) in acute herpes zoster – associated pain versus established postherpetic neuralgia (PHN). In acute herpes zoster, ESPB has been shown to reduce acute nociceptive pain and may decrease the risk of PHN development by attenuating peripheral and central sensitization.7,9,10 In contrast, in established PHN, ESPB does not reverse the underlying neuropathic damage but provides analgesia by modulating nociceptive transmission through blockade of the dorsal and ventral rami and sympathetic fibers. Therefore, the therapeutic goal of ESPB in PHN is pain relief and functional improvement rather than disease modification.

The decision to perform ESPB in this case was based on clear scientific evidence demonstrating that it is a relatively new and safe interfascial nerve block capable of attenuating nociceptive transmission through blockade of the dorsal, ventral, and sympathetic rami in the paravertebral area. Forero et al. (2016) first introduced this technique for the management of thoracic neuropathic pain, and since then, ESPB has rapidly evolved as an effective therapeutic option for various neuropathic pain conditions, including postherpetic neuralgia. In a report by Roces et al. (2025), a 60-year-old woman with refractory PHN achieved near-complete pain resolution lasting up to nine months after a single ESPB injection using 30 mL of 0.25% bupivacaine, with no reported complications. Similarly, Park et al. (2020) demonstrated significant pain reduction (VAS 9→2) in three patients with acute herpes zoster, with prolonged improvement for up to three months following ESPB.15

Another study by Peksöz et al. (2023) evaluated five patients with PHN unresponsive to medication for at least three months and found that ESPB with 0.25% bupivacaine and 40 mg methylprednisolone reduces pain scores from a median of 9 to 2 within one hour, with the analgesic effect persisting for three months. These findings strongly support the rationale for using ESPB in this case, as the technique has proven effective in both acute and chronic phases of herpes zoster, particularly when conventional pharmacologic therapy fails to achieve adequate pain control.

In the present patient, ESPB was performed using a mixture of 10 mL of 2% lidocaine and 1 mL of dexamethasone. Lidocaine was chosen for its rapid onset of action, mediated through voltage-gated sodium channel blockade in A δ and C fibers, which play a key role in pain signal transmission. The addition of dexamethasone aimed to prolong analgesic duration and provide additional anti-inflammatory effects by suppressing the release of inflammatory mediators such as prostaglandins, bradykinin, and pro-inflammatory cytokines. Peksöz et al. (2023) also reported that combining local anesthetics with corticosteroids, particularly methylprednisolone, enhances and prolongs the analgesic effect without significant adverse reactions. Therefore, even though lidocaine is a short-acting anesthetic compared to bupivacaine, its combination with dexamethasone in this case produced sufficient and long-lasting analgesia.

The major advantages of ESPB in PHN patients include its ability to provide rapid and extensive analgesia across multiple dermatomes, with minimal motor block that allows patients to maintain mobility and perform daily activities. Moreover, ESPB can be safely performed under ultrasound guidance in an outpatient setting, thereby reducing hospitalization, polypharmacy, and overall healthcare costs. Roces et al. (2025) emphasized that ESPB is safe, cost-effective, and capable of reducing emergency department visits in patients with chronic neuropathic pain. Another advantage lies in its minimal systemic effects, since the injection is administered into the interfascial plane beneath the erector spinae muscle—away from the epidural and pleural spaces.

Nevertheless, ESPB has certain limitations. The duration of analgesia may be shorter when short-acting anesthetics such as lidocaine are used, occasionally necessitating repeat injections or the use of long-acting agents. Although rare, potential complications such as pneumothorax, Harlequin syndrome, or nerve injury may occur if ultrasound guidance is not optimal. These risks can be minimized by using high-resolution ultrasound and maintaining an appropriate injection volume (10 – 20 mL).

The rapid and sustained pain relief observed in this patient aligns with previous reports. The reduction in NRS from 10 to 3 immediately after the block illustrates successful interruption of nociceptive transmission at the paravertebral level and decreased central sensitization. Additionally, the patient’s ability to discontinue gabapentin following the procedure demonstrates that ESPB effectively attenuates neuropathic activity without systemic drug-related adverse effects. The long-term analgesic mechanism of ESPB is thought to involve suppression of hyperactive nociceptive neurons and reversal of central sensitization, ultimately diminishing chronic pain perception.

CONCLUSION

The combination of lidocaine and dexamethasone in ESPB proved to be a safe, simple, and clinically effective approach for this patient with refractory postherpetic neuralgia. This case reinforces the growing evidence that ESPB can serve as an efficient interventional option to reduce dependence on neuropathic medications, accelerate pain improvement, and enhance quality of life

in elderly patients suffering from chronic neuropathic pain. Further studies are needed to determine long-term efficacy and optimal patient selection.

ETHICS STATEMENT

Written informed consent was obtained from the patient for publication of this case report and any accompanying images. Ethical approval was waived because this study involved a single, anonymized case report and did not constitute experimental research.

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