



Stellate Ganglion Block as Pain Management in Post Herpetic Neuralgia: A Case Report

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ABSTRACT

Introduction: Stellate ganglion block (SGB) has been used in various conditions. Medical conditions include complex regional pain syndrome and peripheral vascular disease. This study aims to describe the use of stellate ganglion block for pain management in post-herpetic neuralgia. **Case presentation:** A 68-year-old man came with a complaint of severe headache. Complaints of severe headache since 1 month ago, pain until tears come out. This complaint is accompanied by red blisters, pain on the left side of the face, weakness, and decreased appetite. Physical examination showed compos mentis consciousness, appeared moderately ill, blood pressure 160/90 mmHg, heart rate 112x/minute, respiratory rate 20x/minute, temperature 37.2°C, numeric rating scale 7/10. In the head region, there was cicatricial, paresis of N VII, positive hypersensibility, positive allodynia, spasm neck muscles, right joint shoulder stiffness, and stiffness in the m. right rotator cuff. The patient was given intervention in the form of a stellate ganglion block (SGB). Follow-up 1 day after the GBS procedure showed that the headache and left facial pain were greatly reduced. **Conclusion:** Ultrasonographic-guided stellate ganglion block can reduce post-herpetic neuralgia symptoms with minimal complications. **Keywords:** herpes zoster virus, neuralgia, post-herpetic neuralgia, stellate ganglion block, ultrasound-guided.

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Introduction

Acute herpes zoster (AHZ) is one of the most common viral infectious conditions worldwide, with an average incidence of 2-4/1000 people/year. About 20%-30% of people experience HZ infection during their lifetime.¹⁻² It occurs as a result of the reactivation of the latent varicella-zoster virus in the spinal or cranial sensory ganglia. Individuals exposed to reactivation of herpes zoster virus (HZV) develop characteristic, painful vesicular skin lesions in that dermatome.³⁻⁵ Pain due to HZ infection can be prolonged pain. Risk factors for post-herpetic pain are advanced age, female sex, higher pain sensitivity, and severe rash severity. Other factors involved are genetic susceptibility, psychological stress, and mechanical trauma. The area most commonly affected by post-herpetic neuralgia (PHN) is the thoracic region, followed by the ophthalmic branch of the trigeminal nerve.^{3,4} Interventional treatment options other than pharmacological agents have been widely applied in the management of PHN. Stellate ganglion block (GBS) has been used in a variety of medical conditions, including complex regional pain syndrome and peripheral vascular disease.^{6,7} This study aims to describe the use of stellate ganglion block for pain management in post-herpetic neuralgia.

Case Presentation

A 68-year-old man came with a complaint of severe headache. Complaints of severe headache since 1 month ago, pain until tears come out. This complaint is accompanied by red blisters, pain on the left side of the face, weakness, and decreased appetite. The patient had a history of hypertension and stroke 2 months earlier. Physical examination showed compositis consciousness, appeared moderately ill, blood pressure 160/90 mmHg, heart rate 112x/minute, respiratory rate 20x/minute, temperature 37.2°C, numeric rating scale 7/10. In the head region, there was cicatricial, paresis of N VII, positive hypersensitivity, positive allodynia, spasm neck muscles, right joint shoulder stiffness, and stiffness on m. rotator cuff dextra. Laboratory evaluation showed Hb level 18.4 g/dL, leukocyte count 14.100 million/mm³, neutrophil segment 88% and lymphocyte count 5%. The patient has been diagnosed with post-herpetic neuropathy with hypertension and a history of non-hemorrhagic stroke. Management of the patient included NaCl IVFD 0.9 500 mL/8 hours, mecobalamin injection 2x1, omeprazole injection 2x1, candesartan 8 mg 0-0-1 orally, amlodipine 5 mg 1-0-0 orally, and pregabalin 75 mg/12 hours per day orally. The patient was given intervention in the form of a stellate ganglion block (SGB). Follow-up 1 day after the GBS procedure showed



that the headache and left facial pain were greatly reduced. The patient was allowed to go home and was advised to have a follow-up 1 week later.

Discussion

Post-herpetic neuralgia (PHN) is the most common complication of HZ, with pain persisting for more than 90 days after the onset of the rash.^{8,9} PHN usually manifests as chronic, untreatable neuropathic pain lasting for months or even years; This can lead to a decrease in quality of life and an increased incidence of mood or sleep disturbances. In this case, the classic anti-pain treatment in the form of anticonvulsants did not significantly reduce PHN complaints.

Various clinical conditions of pain can be treated by perineural injection of a combination of anesthetic agents and steroids in the vicinity of the cause of pain or nerve pain transmission. Ultrasound guidance (USG) is used as a support for nerve-related pain intervention to show the direction of injection of the needle and the distribution of injection in real-time. Ultrasound-guided GBS injection has the highest procedural success and the lowest complication rate.¹⁰⁻¹²

The ultrasound-guided injection procedure can be described as follows. The patient is prepared as before. Using ultrasound, the anterolateral margin of the C6 body was identified. The target point is identified by a 4-12 MHz linear array probe using needle-oriented RF. After the stellate ganglion block was performed, the block was confirmed by using a touch temperature thermometer to compare both sides. Then the procedure area was covered with sterile pads and ice packs to reduce the hematoma. Vital signs are observed every 4 hours. Complications including Horner syndrome, nerve palsy, vascular disorders (vertebral and carotid arteries), pleural injury, epidural or subarachnoid injection, esophageal puncture, hematoma, and osteomyelitis need to be monitored after the procedure. Prior to discharge from hospitalization, patients were instructed to contact a health facility if there was severe chest pain, dyspnea, dysphonia, and motor weakness.¹³⁻¹⁵

Conclusion

Ultrasonographic-guided stellate ganglion block can reduce symptoms of post-herpetic neuralgia with minimal complications.

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