
CASE REPORT

An Integrative Approach for Treating Postherpetic Neuralgia—A Case Report

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■ **Abstract:** This report describes the successful treatment of a patient with postherpetic neuralgia using traditional pharmacology in combination with acupuncture.

Case Report: A 13-year-old girl developed postherpetic neuralgia following a severe attack of varicella zoster. Despite a 1-week course of intravenous acyclovir initiated at the onset of symptoms, the patient developed persistent left facial pain and constant nausea after lesions were healed. A comprehensive pain treatment regimen, consisting of a stellate ganglia block, medications, transcutaneous electrical nerve stimulation and hypnosis, was administered, but the patient did not gain any incremental pain relief. The acupuncture service was consulted to provide assistance with this patient's pain management. A combination of body and auricular acupuncture as well as related techniques, including acupressure and transcutaneous acupoint electrical stimulation, was added to the pain treatment regimen.

After 10 complementary acupuncture treatments over a 2-month period, the patient's nausea disappeared. Her left facial pain continued to decline from a maximum of 10 to 0 as assessed by a visual analog scale over a period of 4 months following self-administered treatments of acupressure and transcutaneous acupoint electrical stimulation. The patient was then gradually weaned off all her medications and the complementary acupuncture treatment. She was discharged from the pediatric pain clinic after 5 months of the combined therapy.

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Conclusions: Acupuncture and its related techniques may be an effective adjunctive treatment for symptoms associated with postherpetic neuralgia and deserve further study. ■

Key Words: postherpetic neuralgia, integrative pain management, acupuncture and related techniques

INTRODUCTION

Postherpetic neuralgia (PHN) is a chronic, painful condition that is frequently associated with a dermatomal recrudescence of the varicella zoster (VZ), which has been dormant in sensory ganglia since an earlier episode of "chicken pox."¹ Herpes zoster typically erupts within one or two adjacent dermatomes. The lesions progress from discrete patches of erythema to grouped vesicles, which pustulate and crust in 7 to 10 days and may take up to 1 month to heal.² Pain is the most common symptom of zoster.²⁻⁴ Most patients report a deep aching or burning pain, or electric shock-like pains.²⁻⁴ An altered sensitivity to touch (paresthesia) that may be painful (dysesthesia), exaggerated responses to stimuli (hyperesthesia), allodynia, unbearable itching, and windup pain are symptoms that are commonly reported by these patients. It is difficult to distinguish the pain of acute zoster from PHN because there is a significant overlap in the nature and timing of the symptoms.² The most common definition of PHN is the presence of pain more than 1 month after the onset of the initial eruption of zoster.^{5,6} Zoster-related pain causes disruption of sleep, mood, and work, and affects the quality of life, in both the short and long term.⁷ PHN is difficult to treat,

and therapy must be individualized.⁷ It is important to introduce and modify interventions sequentially and to discard those that are ineffective or poorly tolerated. This case report describes an approach for managing a young healthy adolescent with PHN, which developed after a severe episode of generalized VZ, using combined traditional medications and complementary acupuncture therapies.

CASE REPORT

A right-handed 13-year-old female adolescent, otherwise healthy, suffered from PHN after a bout of generalized “chicken pox.” She was referred to the pediatric pain clinic for treatment of her pain and associated symptoms. According to the patient’s mother, the patient had an episode of mild “chicken pox” when she was 2 months of age. Because the event was so long ago, the patient’s mother was uncertain of the exact location of the first visible “chicken pox,” but noted that there were not many vesicles. The patient had never received a vaccination for chicken pox. Of note, the patient’s mother reported that the patient’s younger brother had developed chicken pox in November 2005 without any residual sequela.

Within 1 month after her younger brother’s VZ infection, the patient herself began to complain of toothache and left ear pain, which lasted for 5 days. This was followed by generalized vesicle eruptions of the head, neck, trunk, and limbs. The diagnosis of VZ was established serologically, and the patient was hospitalized for 1 week, treated with hydration and acyclovir with excellent results. Clinically, the lesions appeared to be worse on the left side of the face. As a result, some scarring of the face was noted. Following discharge from the hospital, the patient continued to complain of persistent facial pain that was localized on the left side of the face and the ear. The patient also suffered from constant nausea.

Two months after the patient was discharged from hospital, she was referred to the pediatric chronic pain clinic for pain management. At the time of the clinic visit, the patient’s height was 154 cm and her weight was 45 kg. Her medications included gabapentin 200 mg TID, ondansetron 4 mg TID, and acetaminophen 1000 mg QID. When questioned about her pain, the patient described two distinct pain characteristics: a constant pain, which she rated 6 to 8 on the visual analog scale, and frequent episodes of very brief “shooting” pain. On physical examination, the patient demonstrated the following physical findings: dysesthesias,

a sensory decrease on the left cheek, and allodynia affecting the VII and VIII distributions of the trigeminal nerve. Her current medications were then adjusted to gabapentin 400 mg TID, oxcarbazepine 450 mg TID, nortriptyline 30 mg QHS, metoclopramide 5 mg BID, ibuprofen 600 mg BID, and acetaminophen PRN. During the first month of her clinic visits, the patient also received a stellate ganglion block under sedation. Following this procedure, she experienced a significant decrease in her pain but unfortunately, the effect lasted less than 1 hour. Next, a 5% lidocaine patch was prescribed, but this resulted in no additional pain control. A transcutaneous electrical nerve stimulation (TENS) unit was also prescribed, but she found it to be irritating and painful. In addition to the pain symptoms, the patient complained of fatigue, lethargy, sleep disturbance, and an inability to focus. Due to the persistent pain and nausea, she was unable to attend school or perform regular, daily activities.

Hypnosis was added to the treatment regimen; however, the patient reported that she received relief only during the session with the therapist and it was too difficult to perform self-hypnosis. Acupuncture and related techniques were then added to treatment. Auricular acupressure was applied to the right ear at the active reflex point of the lower jaw, face, internal ear, and shenmen (Figure 1). At the same time, transcutane-

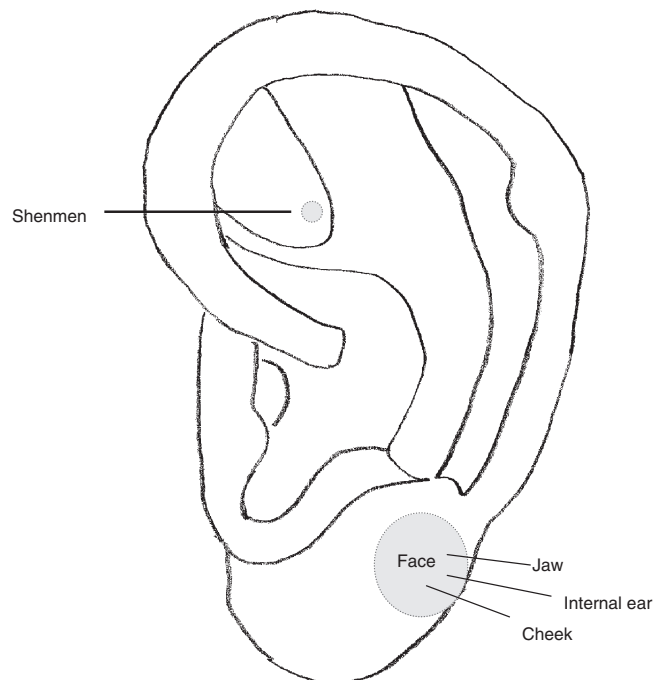


Figure 1. Auricular acupressure point.

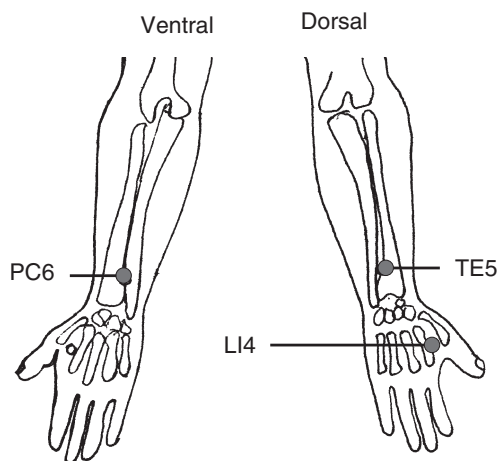


Figure 2. Locations of acupuncture point of upper extremities. LI, and large intestine; PC, pericardium; TE, triple energizer.

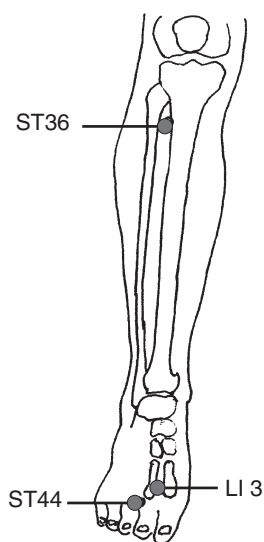


Figure 3. Locations of acupuncture points of lower extremities. LI, and large intestine; ST, stomach.

ous acupoint electrical stimulations (TAES) were administered at the following points: bilateral pericardium 6 (PC6) and large intestine 4 (LI4) using a 100-Hz burst mode (Figure 2). The intensity of the TAES was adjusted to the level at which the patient could sense the stimulation without irritation, and the duration of treatment was set for 30 minutes. Acupuncture with manual stimulation was performed at the following points: triple burner (TB5), liver 3 (LR3), stomach 36 (ST36), and stomach 44 (ST44) (Figure 3).

Following the acupuncture treatment, the patient experienced *immediate* relief of both nausea and pain.

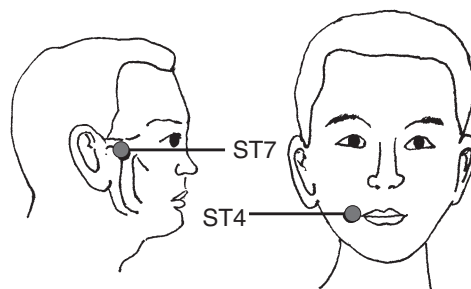


Figure 4. Locations of acupuncture points on the face. ST, stomach.

In an attempt to decrease the patient's need to visit the acupuncture clinic daily, the acupuncturist instructed the patient and her parents to apply these techniques (ie, the placement of surface electrodes at alternating acupuncture points TB5, PC6, LI4, ST36, and ST44) using TENS unit, three times per day at home. Additionally, the patient and her parents were instructed to apply auricular acupressure to the right ear (ipsilateral to the patient's dominant hand) active reflex points (shenmen, face, lower jaw, and internal ear) every night prior to bedtime. Over the next 2 weeks, the patient and her parents reported improvement in sleep patterns and nausea. The frequency of the shooting pain symptoms also decreased significantly, from a few episodes per hour to a few episodes per day. Her medication regimen was then adjusted to include gabapentin 200 mg/300 mg/300 mg for morning, noon, and evening, respectively, and nortriptyline 40 mg QHS, ibuprofen, and metoclopramide PRN, as well as TAES BID to TID.

The patient followed up with the acupuncture clinic once per week for a total of 4 weeks. During this time, her pain improved to 3 on an 11-point (0 to 10) scale and was described as a dull ache persistent at the left maxillary distribution and left corner of her mouth. In attempt to reduce the pain further, TAES were applied to acupuncture points (ST4 and ST7) (Figure 4), and the patient was also instructed to apply TAES to *right* side of the face once per day at home. After 1 week, with her left facial pain continuing to improve, the patient was instructed to place the electrodes directly on left side of the face at acupuncture points: ST4 and ST7. Two months after the initial clinic visit, the patient was able to return to school. She became symptom free after 4 months, and was weaned off all medications and complementary acupuncture therapies and discharged from the clinic after 5 months of treatment.

DISCUSSION

This is an unusual case of PHN following an episode of acute VZ despite the initial institution of an antiviral treatment. In this case, the patient's pain was most severe only in areas where the patient had the most severe lesions and scarring. The patient's pain and nausea were difficult to manage with medications. In addition to medication adjustment, the combination of acupressure acupuncture and TAES was effective as an adjunctive treatment. TENS has been found to be an effective treatment modality for PHN in the literature.⁸ However, because of the location of this patient's pain, direct application of the cutaneous electrodes on the affected site actually produced more distress than pain relief. Interestingly, Chen and colleagues found that direct application of cutaneous electrodes to the affected dermatome level is as effective as distant placement at the acupuncture point in decreasing the postoperative analgesic requirement in a group of patients undergoing lower abdominal surgery.⁹ Therefore, applying surface electrodes at the distant acupuncture points was considered in this case. We found this application was beneficial, without inducing any additional exacerbation of the pain.

The application of acupuncture and related techniques has been used for at least three thousand years. Their use is based upon the metaphysical concepts of "Qi," the flow of vital energy that runs through hypothesized channels called "meridians." In the healthy state "Qi" flows smoothly, uninterrupted. However, when "Qi" flow becomes irregular, illness and symptoms occur. On these "meridians" there are 361 designated acupuncture points that can be used for one to apply stimulations via pressure, needles, or "moxibustion" (lighted punks of *artemis vulgaris*), or more recently, laser and electrical stimulation, that can regulate the flow of "Qi" and restore good health.¹⁰

For the past three decades, studies conducted in human volunteers using experimental pain models indicate that while employing acupuncture needles alone results in some pain relief, the addition of electrical stimulations is even more effective.¹¹ Researchers have demonstrated that different frequencies of electroacupuncture trigger the release of different types of endogenous opioids into the cerebrospinal fluid, which may lead to an increase in pain threshold.¹² In addition, electroacupuncture has a direct inhibitory effect in the sensitized nociceptors or central gating mechanism through the inhibition of afferent input from the

C-fiber.¹³ The analgesic effect of acupuncture is found to be the same regardless of right- or left-side stimulation and with additional acupuncture-point stimulation enhancing its analgesic effect.¹¹ Moreover, electroacupuncture is found to be as effective as TENS at acupuncture points (TAES) in providing pain relief.¹⁴ Outcome data from numerous studies demonstrating the effectiveness of acupuncture have resulted in the development of new scientific-based neuroelectric acupuncture techniques.

In this report, the patient and her parents were instructed by the acupuncturist to identify the selected acupuncture points. Using this approach, both the patient and her family maintained the ability to continue with the activities of daily living while continuing to apply effective treatment. These sessions were performed without any apparent side effects. The advantage of TAES in this case over TENS is that TAES does not require the direct application of surface electrodes at the site of pain. Also, TAES was found to provide sufficient analgesia as the frequency of the patient's "shooting pain" decreased significantly. This intermittent, short shooting pain is believed to be transmitted by thermal C-fiber;¹⁵ acupuncture and related techniques are found to exert their analgesic effect through A-delta afferent fiber and have an inhibitory effect on the C-fiber.¹⁶ This case report illustrates that practitioners can instruct patients and/or their parents to apply the TENS at the selected acupuncture point for analgesic effect. As the pain (and allodynia) improves, the electrostimulation can then be applied to an area nearer the location of the pain.

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