

Treatment-Resistant Trigeminal Neuralgia: Case Reports

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ABSTRACT

Background: Trigeminal neuralgia is a painful neuropathic condition that is often resistant to conventional treatments. Case reports suggest that stimulation of acupuncture points may offer an alternative approach to treatment.

Objective: To present 2 cases of treatment-resistant trigeminal neuralgia that responded dramatically to acupuncture therapy based on neuroanatomical point selection.

Design, Setting, and Patients: Two patients (1 woman and 1 man, both in their 60s) with trigeminal neuralgia refractory to pharmacotherapy and surgery, treated with acupuncture in a private practice setting.

Interventions: In case 1, manual acupuncture needling of BL 2, LI 20, GB 20, and Shenmen in the antihelix of the ear. The needles were inserted using a plastic guide tube and were left in place 10-15 minutes. In case 2, low-level laser therapy was applied directly over the same set of acupuncture points as described in case 1. The laser irradiation to each point was approximately 2 minutes.

Main Outcome Measure: A symptoms score based on visual analog scale (VAS) rating (0-90), frequency of symptoms (1-4), and patients' subjective level of discomfort (1-4).

Results: The first patient's pretreatment VAS scores were 85 for shooting pains and 65 for background pain. At 2 months' follow-up, her symptom scores were 0 for shooting pain and 15 for background pain. The second patient's pretreatment VAS scores were 80 for shooting pains and 75 for background pain. His posttreatment scores were 15 for shooting pains and 15 for background pain. This reduction in symptoms enabled the patient to eliminate his reliance on medications.

Conclusions: This paper describes 2 cases of treatment-resistant trigeminal neuralgia that achieved substantial relief of signs and symptoms following acupuncture therapy. If the results of these cases can be reproduced in controlled investigations, acupuncture may play a more prominent role in the treatment of patients with trigeminal neuralgia.

Key Words: Acupuncture, Alternative Medicine, Trigeminal Neuralgia, Low-Level Laser Therapy

INTRODUCTION

THERE IS GROWING EVIDENCE FOR the effectiveness of acupuncture in the amelioration of painful conditions. Acupuncture exhibits diverse effects at various levels of the antinociceptive portions of the nervous system.¹ However, the traditional approaches to acupuncture therapy rely on a series of quasi-metaphysical relationships dealing with energy flow and the relationship of the human organism with environmen-

tal factors.² These empirical relationships are based on thousands of years of clinical observation, but lack sound scientific rationale. The validity of classical acupuncture applications based on traditional diagnostic and treatment protocols has not been adequately studied. Adherence to traditional acupuncture diagnosis and treatment paradigms has made assimilation of acupuncture into Western medical practice difficult.²

Basic science studies are beginning to unravel the neurobiological basis of acupuncture therapy, particularly for

pain control. We present 2 case reports that relied on the known neuroanatomical and neurophysiological connections between classical acupuncture points and the trigeminal system. It was these neurobiological relationships rather than traditional acupuncture diagnosis that formed the basis of acupuncture point selection in these cases of drug- and surgery-resistant trigeminal neuralgia.

CASE REPORTS

Patient 1

The patient was a 62-year-old woman with a history of recurrent episodes of trigeminal neuralgia. Her most recent bout was refractory to medications including gabapentin, 1800 mg, and pregabalin, 50 mg. At the time she presented for evaluation and treatment, her symptoms had persisted for more than 6 weeks. She reported burning pain in the left V2 trigeminal nerve field, and was experiencing frequent (10-20 daily) episodes of intense “lightning-like” shooting pains into her left cheek. She described these shooting pains as incapacitating (10 on a 10-point visual analog scale [VAS]). In addition, her anxiety level was high in anticipation of future attacks.

Physical examination revealed loss of light touch sensation in both the V1 and V2 distribution of the trigeminal nerve on the left. Otherwise, she was neurologically within normal limits. The patient had been treated by her family physician, a neurologist, a pain specialist, and a dentist prior to presentation.

A symptom score was developed that included VAS scores and factored in the frequency of symptoms and a bothersome rating score (Table 1). The patient’s pretreatment symptom scores were 85 for shooting pains and 65 for background pain.

Patient 2

The patient, a 67-year-old man, presented with a 10-year-plus history of trigeminal neuralgia pain. His history in-

TABLE 1. SYMPTOM SCORE BEFORE AND AFTER ACUPUNCTURE FOR TRIGEMINAL NEURALGIA*

Scale	Shooting pain		Background pain	
	Before	After	Before	After
Patient 1				
VAS	10	0	5-7	1
Symptom score	85	0	65	15
Patient 2				
VAS	9	1	8	1
Symptom score	80	15	75	15

*Symptom score: visual analog scale (VAS) score + symptom frequency + bothersome rating/20 × 100 (maximum score = 90). Symptom frequency: 25% of the day = 1, 50% of the day = 2, 75% of the day = 3, 100% of the day = 4. Bothersome rating: minimal = 1, slight = 2, moderate = 3, severe = 4.

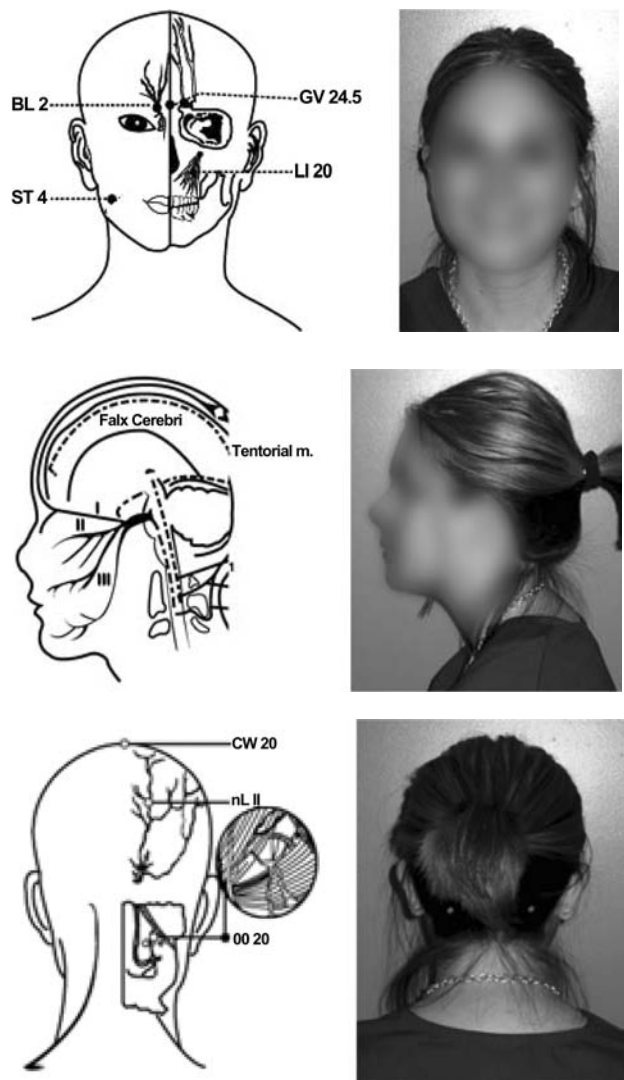


FIG. 1. The relationship between acupuncture points of the head and neck and branches of the trigeminal nerve.

cluded neurovascular decompression surgery and gamma knife radiation for ablation of the trigeminal nerve. Despite extensive use of medications (carbamazepine, oxycodone/acetaminophen, and nonsteroidal anti-inflammatory drugs) and surgery, his signs and symptoms persisted (resulting in his loss of ability to continue leisure activities). The patient’s symptom score pretreatment for shooting pains was 80, his background pain was 75 (Table 1).

METHODS

Both patients were seen in a private practice setting. They were given a printed risk vs benefit analysis. Written informed consent was obtained prior to the initiation of treatment.

In Patient 1, manual acupuncture was administered; point selection was: BL 2, LI 20, GB 20, and Shenmen in the antihelix of the ear (Figure 1). Needles were inserted using a

plastic guide tube and left in place 10-15 minutes. No additional stimulation was applied to the needles. Needle used were 1-inch disposable needles (0.20 mm × 25 mm, #36 × 1; Niedo Orama; King Li, China).

The patient was treated 2-3 times per week. After 6-8 treatments, she reported decreased intensity and frequency of both background burning pain and shooting pains. An additional 8 visits resulted in complete elimination of shooting pain and substantial reduction of background burning pain.

In patient 2, low-level laser therapy was applied directly over the same set of acupuncture points as described above, utilizing a 630-nm wavelength laser at 200-Hz. The laser irradiation to each point was approximately 2 minutes. Laser acupuncture stimulation was administered 3 times a week for 3 weeks, 2 times weekly for an additional 2 weeks, then once a month for an additional 2 months.

RESULTS

Patient 1 reported substantial pain reduction at the 2-month follow-up. Posttreatment symptom scores were 0 for shooting pain and 15 for background pain (Table 1).

Patient 2 stated that his signs and symptoms were greatly diminished. His posttreatment symptom scores were 15 for shooting pains and 15 for background pain (Table 1). This reduction in symptoms enabled him to eliminate his medications. Furthermore, following treatment, he was able to resume his outdoor leisure activities.

DISCUSSION

This paper describes 2 cases of treatment-resistant trigeminal neuralgia in which substantial relief of signs and symptoms was obtained following acupuncture therapy. The first case was treated by traditional needle stimulation; the second case had identical point selection and was treated by low-level laser stimulation.

The second Bladder Meridian point, BL 2, is a classical acupuncture point related to the supraorbital nerve, a superficial branch of the V1 portion of the trigeminal nerve.³ Stimulation of this nerve has been shown to affect trigeminal nociception.^{4,5}

The 20th classical acupuncture point of the Large Intestine Meridian, LI 20, is situated near the exit point of the infraorbital nerve. It is a superficial branch of the V2 portion of the trigeminal nerve.³ Like its supraorbital counterpart, the infraorbital nerve has been shown to modulate trigeminal nociception.^{6,7}

The 20th point along the classical Gallbladder Meridian, GB 20, is associated with the occipital nerves. Blockade of the occipital nerves has been shown to modulate neural activity through the trigeminal system.^{8,9}

The classical auricular acupuncture point Shenmen, located on the antihelix of the ear, is connected to the trigeminal nerve through the auriculotemporal segment of the mandible branch (V3).

CONCLUSIONS

The neuroanatomical basis of acupuncture point selection in these cases is explained. If the results of these cases are reproduced in controlled investigations, acupuncture may play a more prominent role in the treatment of patients with trigeminal neuralgia.

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