

# Impacts of Acupuncture Therapy on Herpes Zoster: Report of 3 Cases

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**Abstract:** There were three cases (64, 44 and 81 years of age, all male) referred to the rehabilitation service of the Ophthalmology specialty, with the diagnosis of ophthalmic herpes zoster, due to intense pain and macular lesions, vesicles on erythematous base in the periorbital and frontal region, accompanied by intense edema. 64, 44 and 81 years old in order of appearance. Also treated, in the first instance, by dermatology with: analgesics (Dipyrone, Paracetamol), non-steroidal anti-inflammatory drugs (Ibuprofen, Piroxicam), injectable B-complex vitamin therapy, physiological therapy, eye drops and saline solutions. Pain intensity was measured by the Visual Analog Scale (VAS), at the beginning and at the end of the treatment. Acupuncture treatment for 6 to 9 sessions began on different days of the evolution of her illness. The same acupuncture treatment scheme was applied to the three patients: bilateral LI-4 (Hegu) and LI-11 (Quchi). In points on the face, the needles were placed on the healthy side: UB-2 (Zanzhu), SI-17 (Yifeng) and GB-1 (Tungtzuliao). After the first acupuncture session the pain ceased or lessened, and the blisters began to dry up. None had ocular complications and post-herpetic neuralgia did not appear after three months of finishing acupuncture therapy. The evolution was satisfactory in the 3 patients.

**Keywords:** Herpes Zoster Ophthalmicus, Ophthalmic Zoster, Shingles, Acupuncture Therapy, Shingles Complications, Chickenpox, Oral Antiviral Therapy

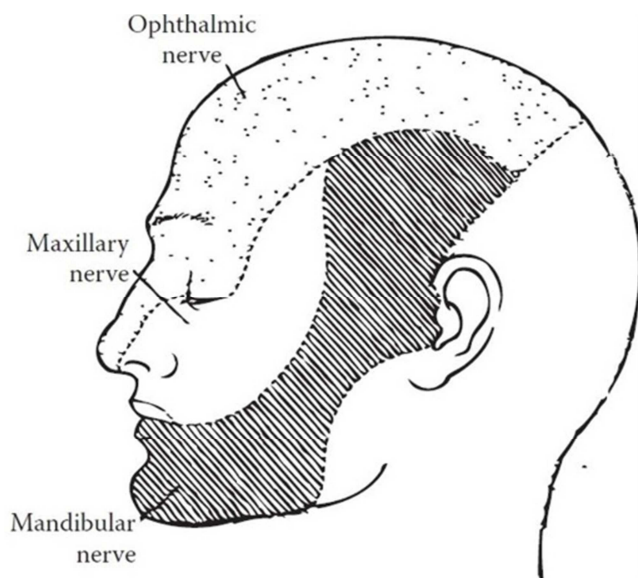
## 1. Introduction

Herpes zoster (HZ) is an acute infectious disease, generally self-limited, that represents an activation of the varicella-zoster virus (human herpes virus 3), latent in people who have become partially immune after an attack of chickenpox. It affects the sensory ganglia and their areas of innervation and is characterized by intense neuralgic pain, throughout the distribution area of the affected nerve, and outbreaks of clustered vesicles throughout the area [1, 2]. The lesions have a unilateral distribution, which can be located on the thorax, waist, limbs and on the face [2]. In the face, they occur in the trigeminal nerve, which has three branches: the

upper one that goes to the forehead, the middle one that goes to the central part, and the lower one to the jaw (Figure 1).

Trigeminal nerve involvement can cause eye injuries (conjunctivitis, keratitis, uveitis), these can lead to permanent blindness (if left untreated) and require emergency care. Neurological complications such as III, IV and VI cranial nerve palsies may also appear. [3]

Approximately a quarter of the world's population at some point in life is at risk of developing shingles (Herpes Zoster). In 10-20% of cases the first branch of the trigeminal nerve gets involved (Herpes Zoster Ophthalmicus, HZO) [4].



**Figure 1.** The three branches of the Trigeminal.

In the United States, there are around one million cases of HZ per year. Ten percent of HZ cases are subtyped as herpes zoster ophthalmicus (HZO) specifically and involve the V1 distribution [5].

The most common clinical manifestations of HZO are the presence of headache, fever, pain or unilateral hyperesthesia in the affected eye and the appearance of vesicles along the territory of the first trigeminal branch [3, 4]. The dermatological eruption only lasts one or two weeks, but it is accompanied by neuralgic pain that varies in intensity, and can take all possible forms in the adult. A complication called post-zoster neuralgia often appears [2-6]. Post-herpetic neuralgia is the most frequent complication, appearing in between 9 and 45% of cases and in up to 20% of patients with HZO [7].

HZO can appear at any age, that more new HZO cases are occurring from 31 to 60 years of age than in other age groups [8].

Treatment is palliative, based on analgesics to control pain, antivirals to stop the infection. The expert panel formally consented recommendations for the treatment of patients with HZO (antiviral medication, pain management, local therapy), considering various clinical situations [9]. There are treatments that can alleviate symptoms, and decrease the duration and severity of the process, such as acyclovir, valacyclovir, and famciclovir. An aggressive management of acute herpes zoster ophthalmicus with systemic antiviral medication is generally recommended as the standard first-line treatment for herpes zoster ophthalmicus infections [10].

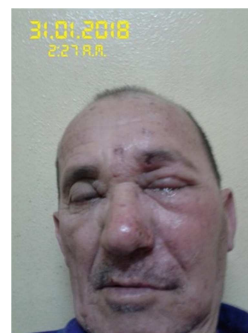
As outlined by the American Academy of Ophthalmology's Policy Statement the first line of defense is vaccination. The Zostavax vaccine was approved by the US Food and Drug Administration (FDA) in 2006 for use in individuals aged 60 years or older to prevent shingles. More recently, an adjuvanted HZ subunit vaccine, Shingrix, was approved by the FDA in October 2017 for immunocompetent individuals aged 50 years and older [11].

Traditional Asian Medicine has several hypotheses about the causes of this disease: hyperactivity of fire in the liver, stagnation of humidity in the spleen, internal accumulation of humidity-heat and the invasion of the external pathogenic factor that turns into fire, which prevent the circulation of energy and blood, through the channels and collaterals, consequently, symptoms of pain and heat sting occur [12]. When the pathogenic factor accumulates in the blood, red spots are produced and when the moisture-heat condenses without dissipating, blisters appear. Hence, the essence of this disease lies in the excess heat of the liver, the gallbladder and the internal accumulation of moisture-heat, while the vesicles on the skin and the intense pain constitute its main characteristics. [12] There are multiple treatment schemes for this disease, but all are designed to disperse heat, wind, fire and humidity, according to the differentiation of symptoms and to increase the defensive capacity of these patients. [two] There is no doubt that among the treatments used, acupuncture constitutes one of the weapons for the treatment of this ailment [12, 13]. In Cuba, from the beginning of the 90's, Natural and Traditional Medicine began to develop and traditional medicine centers were created; within the applied techniques, acupuncture has infinite possibilities to treat various diseases with great results, as a rapid reincorporation to the daily work of affected patients is achieved [12].

## 2. Clinic cases

### 2.1. Case 1

64 year old patient with a health history, white race. He began with general malaise, fever of 39.5 ° C, headache and paresthesia in the left side. Three days later, she was in pain and small, pearly, tense vesicles appeared on her forehead, scalp, upper eyelid, and nose. She went to the dermatologist and prescribed Dipirone and Ibuprofen. On the fourth day, she woke up with half her face edematous, purulent discharge from the left eye and an inability to open it (Figure 2). In the early morning of the fifth day, she awoke with severe, burning, stabbing pain. She went to the ophthalmology clinic, where she was diagnosed with ophthalmic herpes zoster, with involvement of the superior trigeminal branch (Figure 3). She was applied the Visual Analogue Scale (VAS), in which she indicated the number 10 (maximum level of pain).



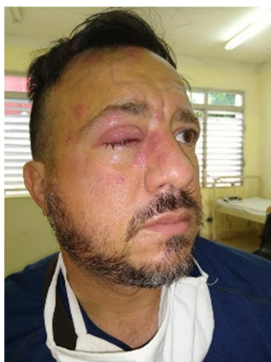
**Figure 2.** Ophthalmic herpes zoster in its fourth day of evolution.



**Figure 3.** First day of treatment.

## 2.2. Case 2

44-year-old male patient. He arrived at the rehabilitation service with 72 hours of evolution of ophthalmic herpes zoster. He was consulted by the ophthalmology specialist who prescribed Acyclovir cream 5% / 15g (apply to the lesions 5 to 6 times / day), Paracetamol and Piroxicam. On physical examination, it shows the presence of macular, erythematous and vesicular lesions, with moderate erythema on the scalp, forehead, superciliary arch and right nasal wing that respect the tip of the nose, which oscillate between 0.2 - 0.5 cm, of multiple diameters, of transparent content and some turbid with increase of the local temperature and the sensitivity. Intense conjunctival redness of the right eye and edema of the eyelid that makes it impossible to open the eye (Figure 4). He has superficial submaxillary, occipital and retroauricular lymphadenopathy on the right side, of a soft consistency and slightly painful. By applying the EVA he points to the number 7.



**Figure 4.** Coalescing vesicular lesions on an erythematous base distributed in the dermatome corresponding to the ophthalmic branch of the trigeminal.

## 2.3. Case 3

81-year-old, white race man with a history of type II diabetes mellitus for approximately 12 years. The outpatient department of the Dermatology service receives him for presenting numerous vesicles, accompanied by intense pain in the left periorbital region, forehead and nasal wing on that same side, a red eye and edema of the eyelid that does not allow him to open the eye; clinical manifestations that

justified referral to ophthalmology. Treatment with injectable B-complex vitamin therapy, Paracetamol, physiological therapy and saline solutions was indicated. The patient arrived at the Rehabilitation Service with 36 hours of evolution of ophthalmic herpes zoster. VAT gives 9.

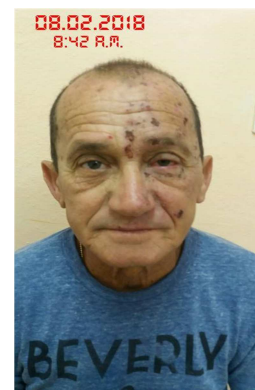
## 3. Treatment

The same acupuncture treatment scheme was applied to the three patients: bilateral LI-4 (Hegu) and LI-11 (Quchi). In points on the face, the needles were placed on the healthy side: UB-2 (Zanzhu), SI-17 (Yifeng) and GB-1 (Tungtzuliao). During the half hour that the treatment lasted, every 5 minutes, the needles were stimulated sedatively. Pain intensity was measured by the visual analog scale (VAS), at the beginning and at the end of the treatment.

In total there were six sessions with acupuncture in Case 1, seven in Case 2 and nine in Case 3. (Figure 5).

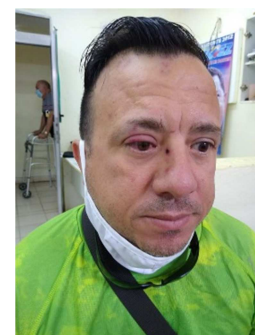
## 4. Evolution of the treatment

In the Case 1, the pain disappeared totally at the 24 hours after the first application. In the session number 6 were given of high (Figure 5).



**Figure 5.** Asymptomatic in session number 6.

In Case 2, pain was not the most important manifestation, it gradually decreased until it disappeared after session number five (Figure 6).



**Figure 6.** Session number 7 only some small scabs, isolated.

In Case 3, who is the oldest patient, 82 years old, the pain was more resistant, especially at night, but disappeared after



session eight and the dermatological manifestations on the ninth day (Figure 7).



**Figure 7.** Evolution on the third day of tax treatment.

It is worth noting that none of the three patients presented Hutchinson's sign. The patients were evaluated by the Ophthalmology specialist at the beginning, at the end and at one month of treatment.

They did not have any ophthalmological complications. One month after the end of the treatment, the patients were asymptomatic and without sequelae.

It is important to note that Case 1 three months after his HZO debuted with lung cancer that led to his death within 1 year.

## 5. Discussion

Herpes zoster (HZ, shingles) represents the secondary manifestation of an infection with varicellazoster virus (VZV). A reactivation of dormant VZV in the ophthalmic branch of the fifth cranial nerve leads to ophthalmic HZ (HZO). The predominantly older and immune compromised patients often present with eye involvement (approximately 50%) as well as characteristic skin changes [14].

The authors have observed an increase in the prevalence of HZO in recent years, which coincides with the revised bibliography that states that as age increases, the incidence of trigeminal zoster (especially the ophthalmic branch) increases and the intercostal distribution decreases [1]. This becomes a current national and future problem because the Cuban population is getting older every day, particularly in Villa Clara.

A study was carried out in Argentina, Brazil and Mexico concluding that the HZ and its sequelae impose a substantial economic burden in Latin America which is expected to rise as the population ages and the number of HZ cases increases. The results support the need for early intervention, preventative strategies and improved disease management to reduce the HZ-associated disease burden in Latin America [15].

Kong y colaboradores en un estudio de cohorte retrospectivo durante 25 años determinaron que the incidence of HZO has increased 3.6% per year from 1994 to 2018 in the United States. Since 2008, HZO incidence declined in individuals younger than 21 years and older than 60 years while increasing at a lower rate in middle-aged adults. Given

the continued increase, greater efforts should be made to vaccinate eligible adults 50 years of age and older [16].

On the other hand, Shiraki *et al.*, they coincide with these authors and obtain in their study the ratio of lesions in the thoracic area to lesions in the whole body decreased with age, whereas those of other areas increase [17].

The territory of the ophthalmic division of the fifth cranial nerve includes the eyelid, brow, forehead skin, and the skin of the tip of the nose. The ophthalmic division gives rise to 3 terminal branches: the lacrimal, frontal, and nasociliary branches. The nasociliary branch innervates the skin of the tip of the nose and divides further into the long ciliary nerves, which provide sensory innervation to the globe, including the cornea and uvea. For this reason, involvement of the tip of the nose, or Hutchinson sign, is highly correlated with ophthalmic involvement [18].

Antiviral therapies can reduce healing time, however a recent Cochrane review, found they were not effective in reducing the incidence of post-herpetic neuralgia (PHN), a common sequelae of herpes zoster. Acupuncture has been shown to be an effective treatment for some types of pain, and various skin conditions, and may provide benefit during the acute stage of herpes zoster. The findings from this systematic review suggest potential benefit from acupuncture and moxibustion in reducing pain intensity, improving rash healing, and reducing the incidence of PHN [19].

Antiviral treatment should be initiated within 48-72 hours of onset of HZ and HZO to decrease pain and reduce complications. Post-herpetic neuralgia, a debilitating pain syndrome occurs in 30% HZ, whereas 50% HZO develop ophthalmic complications. Diplopia from cranial nerve palsy occurs in less than 30% HZO, whereas optic neuropathy is seen in less than 1% HZO [20].

Herpes zoster tends to heal itself only because it is a self-limited disease, but acupuncture can greatly shorten the spontaneous healing process, the analgesic effect appears quickly and also the recovery of damaged skin. [13] It is easy to apply to treat herpes zoster and has no side effects. It has been shown to improve the body's non-specific immunity by inhibiting the multiplication of the virus. [13]

## 6. Conclusion

All three patients had excellent improvement despite being of different ages. The analgesic effect appeared fast, and also the recovery of damaged skin. Acupuncture is easy to practice to treat ophthalmic shingles and has no side effects. It has an effective therapeutic effect, and especially a good analgesic effect. No matter the age of the patient, the results obtained are spectacular with the use of acupuncture. The first thing that disappears is the pain that affects the quality of life of the patient. Shingles are known to be a self-limiting disease, but this ancient Chinese technique helps to greatly shorten the natural process. None of the three presented postherpetic neuritis. Neither did ophthalmological complications appear. The use of this therapy is recommended.

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