

## Clinical Report

# Needle-embedding therapy for fifty cases of post-herpetic neuralgia

## 揶针疗法治疗带状疱疹后遗神经痛50例

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### ABSTRACT

**Objective** To observe the clinical efficacy of needle-embedding therapy for the treatment of post-herpetic neuralgia. **Method** Fifty patients of post-herpetic neuralgia treated with needle-embedding therapy from January 2013 to June 2014 at Department of pain of the Second People's Hospital of Yibin City were selected. At each time of needle-embedding therapy, 4–8 points were selected. Patients were treated once a day, 5 times for a course of treatment and received a total of 1–3 courses of treatment. Meanwhile, the curative effect was analyzed in accordance with *Criteria of Diagnosis and Therapeutic Effect of Diseases and Syndromes in Traditional Chinese Medicine*. **Result** Among the 50 patients, the markedly effective rate was 84.0% (42/50), the effective rate was 16.0% (8/50) and the total effective rate was 100.0%. **Conclusion** Needle-embedding therapy for the treatment of post-herpetic neuralgia offers a good curative effect.

**KEY WORDS:** needle-embedding therapy; post-herpetic neuralgia

Pain is a kind of subjective sensation. World Health Organization defined pain as the fifth vital signs except for body temperature, respiration, pulse and blood pressure in 2001. Post-herpetic neuralgia is a kind of neuropathic pain, whose pathomechanism is very complex. 2/3 of pathomechanism of neuropathic pain is still unclear and even some neuropathic pain itself is a kind of disease. The preferred method for the treatment of post-herpetic neuralgia is nerve block, but not all patients are suitable for or acceptable to nerve block therapy. Therefore, it is very important to seek a safe, convenient and effective therapy for the treatment of post-herpetic neuralgia.

### CLINICAL DATA

#### General data

Fifty patients with post-herpetic neuralgia treated at department of pain treatment of the Second People's Hospital of Yibin City from January 2013 to June 2014

were recruited. All patients were not suitable for nerve block treatment physically or unwilling to accept nerve block. There were 21 males and 29 females with mean age over 50 years old, among them, 10 patients were at the age of 50–60 years old, 25 at the age of 60–70 years old and 15 over the age of 70 years old. All patients had a course of disease for more than 1 month, with the longest one of 6 years.

#### Diagnostic criteria

In accordance with the *Clinical Practice Guidelines*<sup>[1]</sup> on pain, the diagnostic criteria are as follows: ① Patients with herpes zoster have been cured, but still suffer from persistent pain for one month or patients have a history of acute herpes zoster. ② Patients with obvious abnormalities of aesthesia, algia and tactile sensation in domination area of innervation and the changes of local pigment. ③ The nature of pain is spontaneous cutting pain, lightning pain, persistent burning pain or tightening pain.

## Inclusive criteria

① The clinical symptoms consistent with the diagnostic criteria of disease; ② subjects voluntary to receive needle-embedding therapy; ③ subjects seeking treatment on time.

## Exclusive criteria

① There is ulcer, infection, macula and so on in herpes scar or paravertebral regions; ② concomitant with other serious internal medicine diseases and unable to seek treatment on time.

## METHODS

### Selection of press-needle

Needle-embedding therapy was selected for the treatment of post-herpetic neuralgia. Press needle (SEIRIN PYONEX, produced in Japan) with a size of 0.3–1.5 mm in length were applied based on the treatment sites and shapes of patients, among which, 0.3 mm in length was mostly selected for face, 0.3–0.9 mm in length for trunk, 0.9–1.5 mm in length for abdomen and 0.6–1.2 mm in length for arms and legs. At each time of needle-embedding, 4–8 press-needles were employed.

### Sites of treatment

Among the 50 patients with post-herpetic neuralgia, 42 cases were with pain locations at trunk and 8 cases at head and face. For patients with pain locations at trunk, the paravertebral Jiājǐ (夹脊 EX-B 2) in the region innervated by cutaneous nerve and the locally most pain points were selected. At each time of needle-embedding, 4–8 sites were selected, with no more than 8. For patients with pain locations at head and face, the acupoints were selected based on the pain area. If the pain was in ophthalmic branch of trigeminal nerve, Tàiyáng (太阳 EX-HN 5), Yúyāo (鱼腰 EX-HN 4), Cuánzhú (攒竹 BL 2), Tóuwéi (头维 ST 8) on the affected side and contralateral Hégu (合谷 LI 4) would be selected; if the pain was in maxillary branch of trigeminal nerve, then Shàngguān (上关 GB 3), Quánliáo (颧髎 SI 18), Jùliáo (巨髎 ST 3), Yíngxiāng (迎香 LI 20) on the affected side and contralateral LI 4 would be selected; and if the pain was in mandibular branch of trigeminal nerve, Xiàguān (下关 ST 7), Jiáchē (颊车 ST 6), Dàiyíng (大迎 ST 5), Dìcāng (地仓 ST 4) on the affected side and contralateral LI 4 would be selected. At each time of needle-embedding, 4–8 sites were selected, with no more than 8.

### Procedure of treatment

Needle-embedding was changed once a day.

Usually, a course lasted for 5 days continuously. After 3 days interval, the patient would receive next course. The curative effect would be analyzed statistically after treatment for 1–3 courses.

### Criterion of curative effect

According to the Criteria of *Diagnosis and Therapeutic Effect of Diseases and Syndromes in Traditional Chinese Medicine* issued by State Administration of Traditional Chinese Medicine<sup>[2]</sup>, the criteria of curative effect are as follows: ① markedly effective: pain was disappeared and without recurrence one month later; ② effective: pain was alleviated; ③ in effective: no alleviation in pain.

## RESULTS

Of 50 patients after treatment, 42 cases were achieved complete response, accounting for 84.0%, 8 cases were partial response, accounting for 16.0% and the total response rate was 100.0%.

### TYPICAL CASES

Patient CHEN, male, 69 years old, suffered from post-herpetic neuralgia for 6 years at his thoracic dorsal. 5 years ago, the patient had chest oppression, tightness in breathing and other symptoms after receiving nerve block therapy at other hospital. The patient was diagnosed as “pneumothorax”, and was immediately sent to department of thoracic surgery for intubation. Since then, he refused nerve block therapy and took acesodyne orally for maintenance. Over the past year, the pain was aggravated, and he was unable to sleep particularly at night. Therefore, he sought treatment to department of neurology of our hospital. However, the patient complained that the remission was not obvious after administration of pregabalin and oxycodone. Then, he was referred to our outpatient clinic. Considering the patient with severe emphysema and refusing nerve block therapy, needle-embedding was adopted and medication was the same as aforementioned. According to the physical examination, area T<sub>3</sub>–T<sub>6</sub> innervated by cutaneous nerve in the right side of patient showed obviously haphalgnesia. Hence, the right T<sub>3</sub>–T<sub>6</sub> paravertebral EX-B 2 and the locally most pain points were selected. At each time of needle-embedding, 8 sites were selected. 2 days after treatment, the patient revealed that the scope and extent of pain were relatively alleviated. After 3 courses of treatment, the patient reported that the pain was not obvious during daytime and the duration of pain was significantly shortened at night. He was satisfied with the results. Besides, follow-up visit after one month showed that the pain

was not significantly aggravated. Due to a long history, and complex and severe diseases, this case did not achieve the healing effect, but had a higher satisfaction and he was the patient with the longest history among our patients.

## DISCUSSION

Neuropathic pain is a kind of pain caused by nerve injury. Clinically, it can be caused by trauma, surgery, cancer, viral infections, drug and so on. Its main manifestations are pain hypersensitivity induced by threshold of pain decreasing significantly, hyperalgesia or spontaneous pain, and another typical feature of these diseases is that even though the injury healed, the pain still exists and will continue for several weeks, months or years, hindering normal work and life of patients. Neuropathic pain is deemed as a disease of the nervous system<sup>[2]</sup>. Its pathogenesis is not yet clear, but some studies have shown that the pathogenesis is the spontaneous discharge generated by primary sensory neurons and the continuous enhancement of synaptic transmission efficiency in spinal cord dorsal horn after nerve injury<sup>[3]</sup>. Herpes zoster is caused by the varicella-zoster virus, which is generally lurked in the dorsal root neurons. With the decrease of immunity of human body, the virus can re-grow and reproduce and move to the skin along the nerve fibers, causing drastic inflammation of nerves and skin. Rash appears usually on unilateral side and distributes according to the nerve segment. Some rash is presented as clusters of herpes associated with pain and with the increase of age, neuralgia becomes more serious. As long as patients with herpes zoster receive treatment actively, the virus in the body and transmitted to peripheral nerve will be removed, and the post-herpetic neuralgia will not happen. At present, the treatment for post-herpetic neuralgia remains a global challenge.

Skin is the most superficial part of body in the meridian and collateral system, which is not only the gateway of pathogens, but also the important part in clinical treatment. Stimulation on the skin boosts the *qi* of meridian and collaterals and soothes *qi* and blood that can adjust the *zang-fu* organs and cure the disease<sup>[4]</sup>. *Ling Shu: Guanzhen* (《灵枢·官针》), *Miraculous Pivot: Needle Selection*) says that superficial needling is the needle inserted obliquely from the side of location of disease and inserted superficially on the fleshy exterior for the treatment of muscle spasm and other cold syndromes. Superficial needling soothes collaterals and harmonizes *qi* and blood, therefore, having a better analgesic effect<sup>[5]</sup>. *Su*

*Wen: Lihe Zhenxie Lun* (《素问·离合真邪论》, *Plain Questions: Treatise on the Departure and Union of True and Evil*) says that after insertion, the retention of needle should be based on the *qi* to prevent pathogens from diffusing. Some diseases even require long-term retention of the needle to produce a curative effect<sup>[6]</sup>. Needle-embedding therapy is a kind of superficial needling. Long-time retention of the needle stimulates the acupuncture effect and improves the curative effect.

From the perspective of modern medicine, skin is the human body's third brain and possesses a complete nerve-endocrine-immune network. Press-needle, after embedding, on the one hand, directly stimulates nerve endings, makes nervous exciting, and then, nervous excitation transfers to the central nervous system—spinal cord and brain along the corresponding neural pathway and activates the regulatory function of nervous system. On the other hand, press-needle retained in the corresponding acupoints induces degranulation of mast cells, which release histamine, prostaglandins, cytokines and other chemical substances, which affect the blood circulation and also participate in the immune response. Meanwhile, long-time retention of the needle produces sustained stimulation, which is transmitted and integrated through a complex network of nerve-endocrine-immune and others, and thus exerts an influence on target organs to achieve analgesic effect<sup>[7]</sup>. In this study, the selection of acupoints was not according to the traditional method, but according to the pain area to determine the corresponding innervation area: the paravertebral regions were mainly selected for pain locations at trunk and the areas were selected based on distribution area of trigeminal nerve for pain locations at face. The curative effect was significant by stimulating the cutaneous nerve endings to relieve the pain and the total response rate was 100.0%.

The preferred method for the treatment of post-herpetic neuralgia is nerve block, but not all patients are suitable for or acceptable to nerve block therapy. Because some patients are sensitive to pain, they are unwilling to accept pain and needling sensation generated by nerve block therapy. Needle-embedding therapy is apt to be accepted by patients due to small needle, superficial insertion, no obvious soreness and numbness after subcutaneous embedding and almost painless. It is demonstrated in clinical trials that with a good curative effect, needle-embedding therapy is safe and reliable and deserves to be generalized clinically.

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## ABSTRACT IN CHINESE

**[摘要]** 目的: 观察揶针疗法治疗带状疱疹后神经痛的临床疗效。方法: 收集科室2013年1月至2014年6月带状疱疹后神经痛患者50例, 进行揶针治疗, 每次选择4-8部位, 每日1次, 5次为一疗程, 共治疗1-3疗程。依据国家中医药管理局颁布的《中医病证诊断疗效标准》进行疗效观察。结果: 50例患者显效率为84.0% (42/50), 有效率16.0% (8/50), 总有效率100%。结论: 揶针治疗带状疱疹后神经痛效果明显。

**[关键词]** 揶针疗法 带状疱疹后神经痛 穴位埋针

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