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Case Report

Complex Regional Pain Syndrome Treated with Bee-venom Herbal Acupuncture: A Case Report

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Abstract

This article presents a case report of complex regional pain syndrome (CRPS) involving the ankle and foot; the bee-venom herbal acupuncture (BVH) was performed as part of a pain management program.

An 46-year-old man presented with CRPS in the left lower extremity that was inadequately controlled with typical oral medication. Sympathetic block the extremity did not provide significant pain relief. However, BVH resulted in significant pain relief and improvement in patient's attitude.

This case report showed that BVH may be efficacious in treating patients with CRPS. Further study is needed to determine the effects of BVH on symptoms related to CRPS

Key words : Complex regional pain syndrome, Bee-venom herbal acupuncture, Case report

Ⅰ. Introduction

Complex regional pain syndrome I (CRPS I) known as reflex sympathetic dystrophy (RSD) is an uncommon, chronic disabling neurological disorder. The symptoms of CRPS I usually occur near the site of an injury. CRPS is characterized by severe burning pain, pathological changes in bone and skin, excessive sweating, swelling of tissue, and extreme sensitivity to touch. The cause of CRPS I is unknown. It is thought to be the result of damaged nerves of the sympathetic nervous system, the part of the nervous system responsible for controlling the diameter of blood vessels. These damaged nerves send signals to the brain, interfering with normal information about sensations, temperature and blood flow. One visible sign of CRPS I near the site of injury is warm, shiny red skin that later becomes cool and bluish in color.[1,2)]

Treatment is targeted to relieve symptoms of

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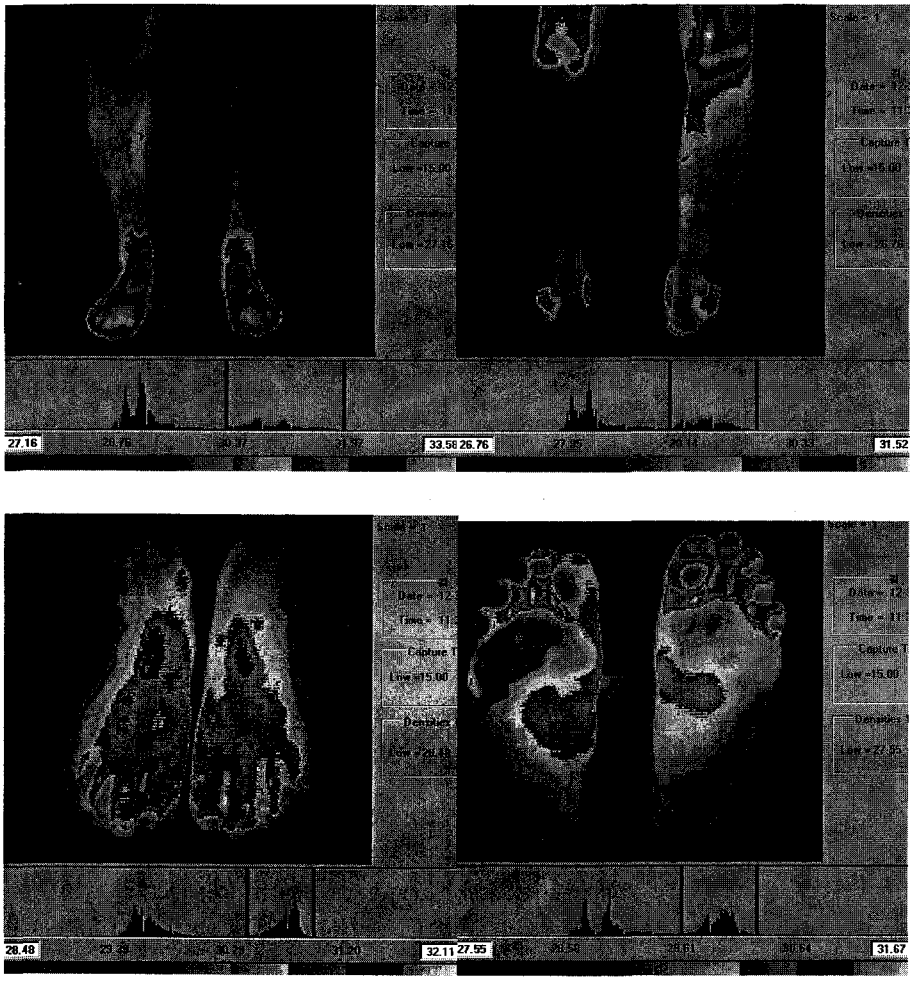

Fig. 1. DITI finding of CRPS patient(before treatment)

pain, and in cases where the cause is unknown the treatment is mostly supportive. Pain relievers, physical therapy, corticosteroids, sympathetic nerve-blocking medications, vasodilators, surgical sympathectomy are recommended[3-8].

This case report discusses the use of bee-venom herbal acupuncture (BVH) in CRPS patients after conventional approaches were unchanged and its effects on reducing pain, symptoms and improving the patient's overall attitude.

Ⅱ. Case Report

An 46-year-old man came to the out-patient department of acupuncture and moxibustion complaining of intolerable burning or aching pain in the left ankle and foot. On review of medical history, the onset of CRPS symptoms can be traced back to an injury and surgery in the left ankle.

On physical examination, severe pain with swelling and tenderness that made touching or movement of foot and ankle seemed intolerable. He could not maintain normal activities: walking, sleeping, etc. The skin was discolored and skin temperature altered. In order to measure skin temperature and blood flow, thermography (DITI, Dorex, USA, Figure) was tested. No extremity weakness was noted, and other neurological examination did not reveal signs of additional pathology.

Before one and half month, he took the cartilage repair operation for the tear of his left ankle cartilage in local Hospital. After surgery he began to experience left foot and ankle pain. The pain was getting worse and was described by the patient as "buring". He was diagnosed an CRPS with an unclear etiology and supportive treatment was begun. Sympathetic nerve-blocking was tried three times, pain relievers and sleeping pills were prescribed. But it did not work. His marked symptoms continued, so he came to my clinic. I checked DITI to measure skin temperature and blood flow and started BVH (1: 3,000) manufactured by Kyung Hee University Medical Center without any intervention. Acupuncture points were selected ST36, GB39, GB34, ST41 and tender points on the affected side. The patient's skin was sterilized with alcohol, and 0.2 ml of BVH solution was injected the designated point by disposable herbal acupuncture injector (0.25×40 mm, Dong Bang Co., Korea), respectively.

After first treatment session, the severe pain dramatically disappeared and he could sleep without any medications. He could walk by himself without cruch. The tenderness on the operation site had half disappeared. After second treatment session, he only complained the intermittent and tolerable shooting pain and slight tenderness. He can maintain normal daily activities. The skin color had restored, except the operation site. The patient experienced gradual recovery from that point. By the eighth session, he had the significant recovery and was symptom free.

Ⅲ. Discussion

CRPS occurs in two types, with similar signs and symptoms but different causes. Type I, previously known as reflex sympathetic dystrophy syndrome, occurs following an illness or injury that has not directly damaged the nerves in your affected limb. Type II, once referred to as causalgia, follows a distinct nerve injury[1-2].

Complex regional pain syndrome was first described after the Civil War when soldiers continued to report severe pain after their wounds had healed. It was often referred to as "hot pain" during that period.

Most cases of CRPS occur following a forceful trauma to the extremities, such as a gunshot wound or shrapnel blast. Other major and minor traumas; surgery, heart attacks, infections, fractures and even sprained ankles; also can lead to CRPS. It's not well understood why these injuries sometimes trigger CRPS[1-2].

CRPS I/RSD is diagnosed primarily through observation of the symptoms. However, DITI, a diagnostic technique for measuring blood flow by determining the variations in heat emitted from the body, would be used for the diagnosis of CRPS I/RSD.

The symptoms of CRPS I/RSD vary in severity and duration between individuals. However, there are usually three stages associated with the syndrome. The thermal changes in stages of CRPS I/RSD are summarized as follows.

In stage 1 (dysfunction), in the first few days to weeks after the original injury, the majority of the CRPS I/RSD patients manifest a tendency for hyperthermia of the involved extremity. In this early stage of the disease, there seems to be a vasamotor instability which has a tendency to involve the extremities on both sides, more prominently so on the injured area. In stage 2 (dystrphy), gradually the original vasomotor instability and hyperthermia gives in to a separate mixture of hyper- and hypothermia in different days or hours, and gradually, the majority of the patients develop a tendency towards hypothermia. In stage 3 (atrophy), the majority of the patients have a tendency for hypothermia. In late stages of the disease (stages 3 and 4), a significant number of patients develop a tendency for hyperthermia involving the extremity. This hyperthermia is more commonly seen among the patients who have

received multiple sympathetic ganglion nerve blocks. So, DITI is the sensitive diagnostic tool when diagnosing CRPS I/RSD[9-10].

Although various medications have been useful in managing CRPS (eg, gabapentin, carbamazepine, tricyclic antidepressants, baclofen, anti-inflammatories, clonedine), they are not guaranteed to be effective[3-5]. Medical management is actually watchful waiting, since there is no direct medical treatment that alters the course of the disease. Patients experience tremendous suffering and distress. The treatment mainstay has been sympathetic blocks given early in the course of the condition[6-8].

Recently, BVH, and in particular one of its constituents, melittin, have been reported to possess pro-inflammatory[11-12], anti-inflammatory,[12-13] anti-nociceptive[13-14], anti-cancer effects,[15] and immune modulatory effects[16]. Although BVH is commonly regarded as a substance that evokes pain[17], BVH11 has been traditionally used in oriental medicine to relieve severe pain produced by inflammatory diseases such as rheumatoid arthritis and osteoarthritis[18].

I report one case in which the patient presented with ankle and foot pain from CRPS. The patient had tried many therapeutic modalities; oral medication and sympathetic block, but they did not provide significant pain relief. However, BVH resulted in significant pain relief and improvement in patient's attitude.

Ⅳ. Conclusion

It is well known that pain from CRPS can be severe and difficult to manage, even with analgesic medications, invasive sympathetic blocks, and therapeutic modalities. This case report indicate that BVH is a reasonable and safe analgesic treatment may be effective in reducing ankle and foot pain. Further large, controlled research is needed to establish guidelines for the use of BVH for the treatment of CRPS.

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