

Clinical Report 1 (Acupuncture)

A Case of Intractable Pain of Around the Right Shoulder Effectively Treated by Acupuncture and Moxibustion at the Lumber Jiaji Point (Ex-B2)

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Introduction

Chronic pain may be caused by many factors and have a major impact on the patient's quality of life. There are a variety of treatment forms from such as pharmacotherapy, psychotherapy, nerve blocks, laser therapy, non-invasive and brain stimulation¹⁾. However there is few standard method of treatment. A substantial number of patients with refractory chronic pain have symptoms that are not alleviated by those treatments. They suffer from pain for many years. Often some of them visit acupuncture and moxibustion clinics. We report a case of pain in the right shoulder that was unknown origin and continued for more than 2 years with successful treatment by acupuncture and moxibustion.

Case Presentation

An 18-year-old male high school student had been suffered from continuous pain of the proximal region of the right shoulder. He had sustained a compression fracture of a lumbar vertebra (L5) during soccer practice 8 years ago. About 2 years ago, numbness and pain developed radiating upon flexion of the neck from the right scapular region towards the right upper arm. When the condition exacerbated he consulted an orthopedist. Loxoprofen Sodium and Pregabalin were administered, but were not effective. Following the recommendation of the orthopedist he underwent several treatment sessions at a different acupuncture and moxibustion clinic, but this had no effect either. In June, he was hospitalized for detailed examinations. The results of nerve root stimulation tests during extension and lateral flexion were negative. There were neither obvious motor and sensory disturbances nor deep tendon reflex anomalies. Neither magnetic

resonance imaging (MRI) of the cervical spine and the brachial nerve plexus nor a myelo-CT during flexion showed any organic disease. An electromyogram performed because of suspicion of a right-sided C5 nerve root disturbance also did not show any abnormality. To prevent exacerbation he wore a Polyneck. When he went to bed, he could not maintain the same posture over 30 minutes, even when using a pillow. For this reason, he was referred in August for consultation to our acupuncture and moxibustion outpatient.

During the first examination pain associated with a tingling numbness from the right side of the neck towards the right scapula and into the right upper arm was observed. The pain was particularly strong along the medial edge of the right scapula and exacerbated by anteflexion of the neck and continued even after returning to the original position.

Present state had no problem (height: 177.7cm, weight: 78.6 kg, BMI: 24.9, blood pressure: 116/70 mmHg, pulse rate: 65 bpm). Subjective symptoms were lack of motivation, depressive mood, and easy sweating. In physical findings, Jackson compression test, Spurling's test, and Allen test were all negative, and there was no restriction of neck and shoulder ROM and no sensory anomalies.

In oriental medical findings, tongue was observed pale red color with moistwhitecoat by tongue diagnosis. Abdominal wall strength was intermediate and both sides of rectus abdominal muscles were strain by abdominal diagnosis. The Pulses were decreased at the left middle and the left proximal pulse which concluded as liver meridian deficiency by six-position pulse diagnosis.

Treatment

Based on the six-position pulse diagnosis the essential treatment was administered by using acupuncture needle according to the Kitasato style meridians therapy and the symptoms were treated locally and symptomatically by using acupuncture needle and moxibustion. The needles were retained in both supine and abdominal position for about 15

minutes. Disposable stainless steel needles of 0.2×40 mm (No. 3) and 0.23×50 mm (No. 4) were used with insertion tube. Insertion depth was in general approximately 2-3 mm on essential treatment, but depending on site occasionally also 5-10 mm. The treatment was started in intervals of basically one week, but switched during the course to 2-3 times per week. Also, the intensity of the pain was assessed before and after treatment using a Visual Analogue Scale (VAS).

Most of pulse findings in this case over the entire course indicated either kidney or liver deficiency. The main acupoints used for the essential treatment were LU5, LI10, KI10, KI7 and KI3 for the kidney deficiency. For the liver deficiency PC4, KI10, LR8, LR4 and LR3 were used. Also, GV20, CV12, ST25, CV6, CV4, BL10, GB20, BL11, BL13, BL17, BL23, BL40 and BL57 were chosen as the supplemental points of essential treatment.

Results

From the 1st to the 20th treatment visit no major changes were observed and the pain subsided only temporarily after the treatment. The patient's VAS score of 100 obtained before the first treatment decreased at best to a level of around 80. The treatment effect did not last and the VAS score would return to 100 by the next visit. However, the patient stopped complaining about lack of motivation, depressive mood and easy sweating. Also the patient reported that "except for the pain I am now in good physical condition".

Figure 1 shows the clinical course from the 21st treatment. At the 21st treatment the VAS score of the pain before the treatment was 100. At that time he also complained about low back pain that had not been present at the time of the first visit. Since the patient's cold feet was found, we applied moxa needle at BL26 for symptomatic treatment. After the treatment the VAS score had dropped to 70.

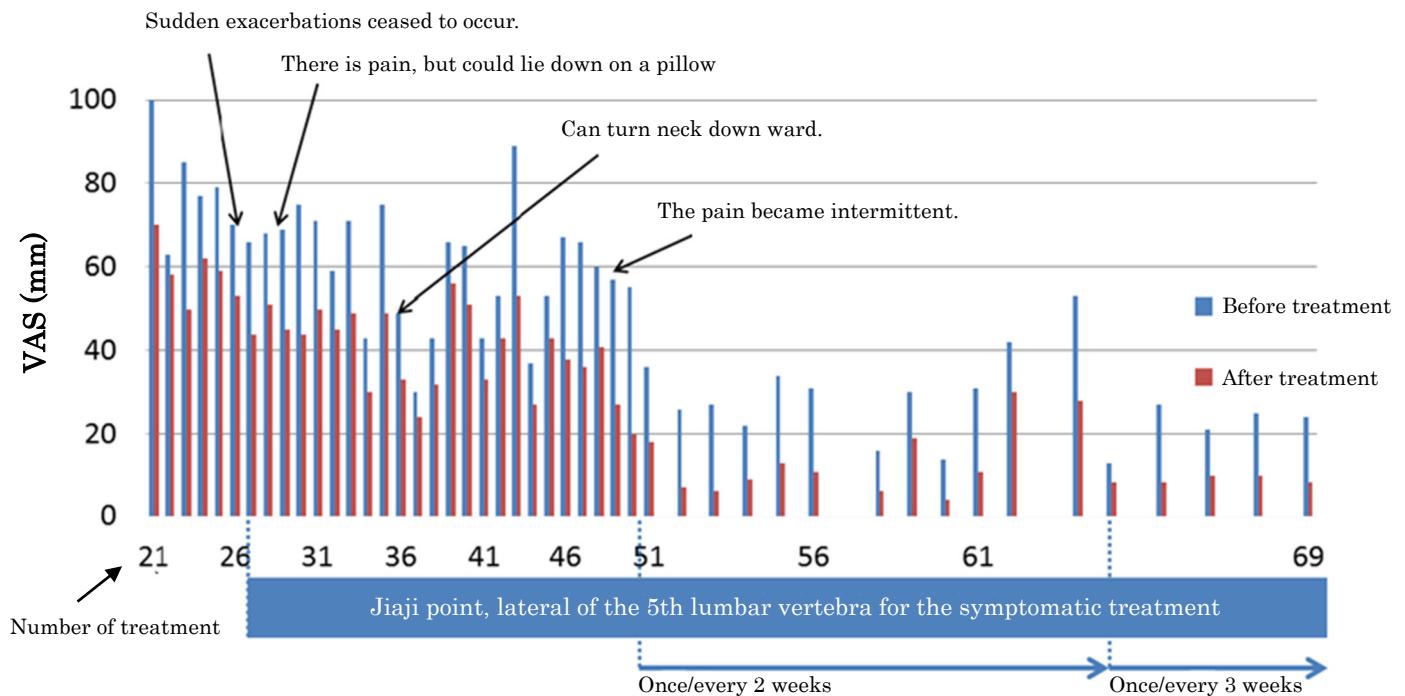


Figure 1 Clinical course

During the 22nd visit, the VAS score was 63 before treatment, indicating that the effect of the previous treatment continued. We administered the same treatment until the 26th visit. By the 27th visit the VAS score before treatment was 66. The low back pain had become localized at the lumbar Jiaji point (Ex-B2) to the right of L5. We changed the acupoint to that location instead of using BL26 for symptomatic treatment (Figure 2). When we continued to administer the moxa needle because the patient's cold feet persisted the VAS score dropped to 44. The patient reported during the 29th visit "I do have pain, but can lie down on a pillow". By the 36th visit he said he was able to anteflex the neck without exacerbating the pain. By the 49th visit the pain became intermittent and following the 50th visit treatment intervals were extended to once every 2 weeks. By the 65th visit the VAS score had markedly improved to 27 before and 8 after the treatment. At the time of this writing the pain is almost gone.

Discussion

Nociceptive pain disappears when the injured tissue heals. However, even though lesions have been repaired and no anomalies can be observed, subjective pain may develop into chronic pain generally caused by neurogenic or psychogenic factors.

In this case, the patient was worried at the time of the first visit about chronic pain of unknown origin that had lasted for more than 2 years. The pain was located at the proximal right shoulder and intensity was highest along the medial edge of the right scapula. Even though cervical anteflexion exacerbated the symptoms, detailed examinations did not reveal any causes for neurogenic pain. Since the patient was a high school student just before taking entrance examinations of university, his complaints about "lack of motivation and depressive mood" suggested involvement of mental symptoms and stress. However until the 20th visit, we considered few possibilities of psychogenic factors.

His past history showed a long interval of 8 years

from onset of a compression fracture of his lumbar vertebra. This injury is hard to explain anatomically the causes of his right shoulder pain, where he complained. Yet, we found severe pressure pain on the right side next to the 5th lumbar vertebra at the standard location of the lumbar Jiaji point. Symptomatic treatment on the acupoint almost completely alleviated the right shoulder pain. This observation induced our conclusion that the right side of the 5th lumbar vertebra has a correlation to the medial edge of the right scapula.

Usually, a compression fracture of the lumbar vertebrae is a disease, causing injury to the ventral column of the lumbar vertebrae, but through vertebral body deformation it may also induce chronic pain originating from the paravertebral erector spinae muscles. According to reports indicating muscles as the responsible region of chronic pain indicates the continuous contraction of muscles results in indurations of the muscles and poor local circulation as well as continuous stimulation of polymodal receptors inside the muscles develops myalgia. Also, muscle tension induced excessive stress on the tendon attachment sites may possibly result in the development of inflammation at these sites and therefore contribute to the myogenic pain²⁾.

There are a few reports describing prolonged pain when tissues surrounding the bone are injured in case of fractures, leading to prolonged pain or edema in the vicinity of the injured region. However, we could not find any cases in which these symptoms continued over prolonged periods of time after healing of the fracture. Also, regarding the site of the pain there have been reports describing low back pain after compression fractures of thoracic or lumbar vertebrae, but any reports about the onset of pain in a region as remote from the fracture site as in this case could not be found.

The longissimus thoracis muscle attaches to both the region of the most intense pain along the medial border of the right scapula and the right side of the

5th vertebra. This longissimus thoracis muscle arises from the sacrum, iliac crest, spinous processes of the lumbar vertebrae, the transverse processes of the lower thoracic vertebrae, attaches medially to the costal processes of the lumbar vertebrae to support the lumbar region and laterally to the 2nd through 12th ribs and thoracic transverse processes to support the chest. Innervating nerves are the individual posterior and external branches from the 1st cervical to the 5th lumbar vertebrae³⁾.

In this case the lumbar vertebral fracture may have injured the longissimus thoracis muscle and caused chronic elevated muscle tension that generated pain at a distant location. We considered the lumbar vertebral compression fracture to be the cause for the pain in the proximal region of the right shoulder.

The meridian therapy consists of both essential treatment that treat the primary aspect of a disease and symptomatic treatment that treat the secondary aspect of a disease. The essential treatment of meridian therapy itself is based on classical theories of reinforcement and reduction, which are describe in chapter 69 in the classic text *Nanjing*. In the classical theories, diseases are interpreted as imbalances of the *zang* (solid) and *fu* (hollow) organs. Those imbalances appear deficiency or excess along the course of the meridian. Following the rule in chapter 69 therapeutic acupoints are determined. Pulse diagnosis and other techniques were used to identify deficiency or excess in meridians to find the imbalance of *zang* and *fu*. Treatment consists tonifying deficiency meridians and reducing excess meridians and thus returning the body to its normal state.

Sodo Okabe, the first head of our acupuncture and moxibustion department, developed the Kitasato style meridian therapy by improving on fundamental meridian therapy with feedback from his clinical experience. It is a style of treatment that concentrates on reinforcement of deficiencies which we currently employ at our research institute.

In this case we used Jiaji point for the symptomatic treatment. Jiaji point is a group of altogether 34 extraordinary points located 5 *bu* (about 0.5inch) lateral from the 1st thoracic to the 5th lumbar spinous processes. In this case we used only the point located below and to the right of the 5th lumbar vertebra as shown in Figure 2.

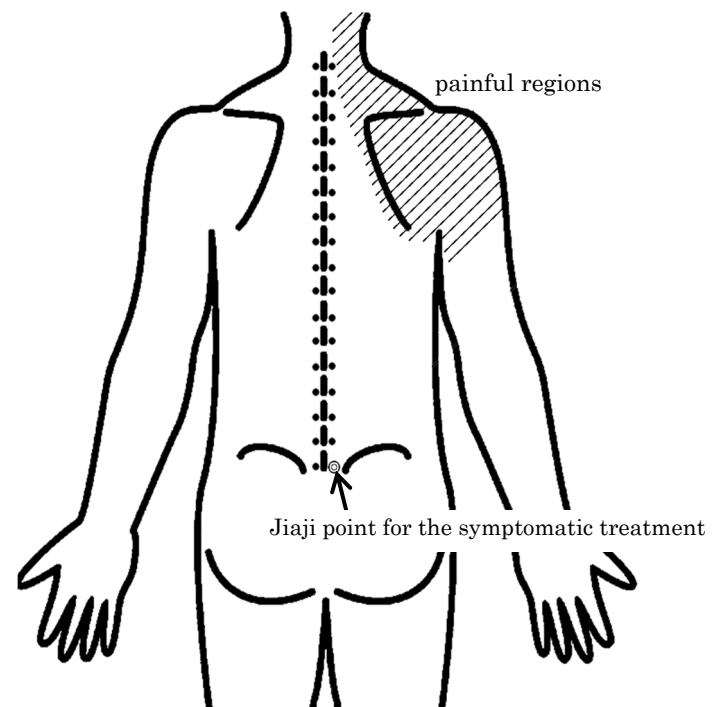


Figure 2 Jiaji point for the symptomatic treatment and painful regions in this case

We found Jiaji point seems to be classified into 2 types. One type is named as Hua Tuo's paravertebral acupoint, used for treating a patient with distortion of the body, as described in the classic text *Sanguozhi* (三国志)⁴⁾. The other type is named paravertebral point used for treating patients with severe diarrhea such as that caused by cholera, and described in the classic text *Zhouhoubeijifang* (肘後備急方), *Qianjinyifang* (千金翼方), *Waitaimiyaofang* (外台秘要方) and *Ishimpo* (医心方). All five classical texts only described treatment by moxibustion. However, in the classic text *Shinkyusetsuyaku* (鍼灸説約), the book of acupuncture and moxibustion written by Sotetsu Ishizaka, and published during the latter Edo period in 1812 (Figure 3), a section

with an anatomical description of the individual vertebral bodies is followed by the passage: "these points are found next to the spine all the way down at the distance of 5 *bu* (about 0.5inch) each, they should all be needled, they should all be treated with moxa. In other words, these are the point described by Kada [Hua Tuo] of the latter Han dynasty", showing that by the late Edo period that they had also been adapted for use with needles. According to the *Shinkyusetsuyaku* Jiaji point could be used to treat "steaming bone taxation fever, various forms of depression, all kinds of diseases of the chest, abdomen, head and neck, syncope and epilepsy, chronic abdominal masses, disease of the uterus in women, irritability and convulsion in children, twisting of back and shoulders as well as bending of the backbone". Their use had also become more frequent; the text states, "They [Jiaji point] have often been tried and often found to be effective". Figure 3 shows a piece of the *Shinkyusetsuyaku* manuscript wherein Jiaji point is described.

In 1957 Sorei Yanagiya, who had restored the Japanese traditional acupuncture and moxibustion, reprinted the surviving text of the *Shinkyusetsuyaku* along with his commentary under the name of *Shinkyumeiwa* (鍼灸説約 鍼灸茗話). In *Shinkyumeiwa* he wrote "the paravertebral point is generally known as Hua Tuo's paravertebral acupoint or as paravertebral point, and also as the first line of the bladder meridian" (Figure 4). In the same year Yanagiya also wrote the book *Hihouipponshindensho* (秘法一本鍼伝書), in which he describes acupuncture for five viscera and six bowels and the needling techniques for internal organ diseases by using Jiaji point⁵⁾. The *Shinkyusetsuyaku* was reprinted as well in 1970 by Sodo Okabe. In recent years, deep needling at Jiaji point to achieve nerve root stimulation has reportedly been shown to be effective for the treatment of radicular pain⁶⁾ or postherpetic

neuralgia⁷⁾ Since treatment using Jaiji point has spread in Japan, both the way they are used and their applications have changed. Sorei Yanagiya and Sodo Okabe had a major influence on acupuncture and moxibustion in Japan during the Showa period both reprinted the works of Sotetsu Ishizaka. It is conceivable that Ishizaka's efforts still influence the way they used and their applications of Jiaji point.

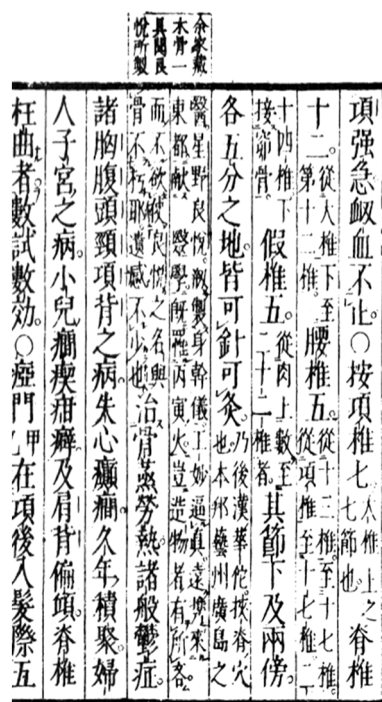


Figure 3 *Shinkyusetsuyaku* (鍼灸説約)

Figure 4 *Shinkyumeiwa* (鍼灸茗話)

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Conclusion

Acupuncture and moxibustion treatment of Jiaji point was effective for treating pain in the right shoulder of unknown origin that had persisted for more than 2 years. It seemed possible that a previously sustained compression fracture had induced the pain in the right shoulder.

A part of this manuscript has been published at the 66th annual conference of The Japan Society for Oriental Medicine⁸⁾.

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- * Only in Japanese