

## Acupuncture and Moxibustion Treatment for Hands Numbness

Nobuyuki Otsuka<sup>†, ††</sup>

<sup>†</sup> *Hotal Ancient Medicine Research Institute (HARI)*, <sup>††</sup> *Otsuka Clinic*  
 3-8-14 Hotarugaike-nakamachi, Toyonaka, Osaka, 560-0033 Japan  
 E-mail: hari@otsuka.holding.jp

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Numbness or a feeling of numbness often refers to a specific sensation caused by a combination of sensory escape and sensory abnormality in the extremities due to compression of sensory nerves [1]. Numbness is one of the abnormal sensations such as zinging or tingling. The actual complaints include a wide variety of abnormal sensations. On the sensory side, hypoesthesia, hyperesthesia, and sensory abnormality are recognized as numbness. On the motor side, patients complain of hypertonia, muscle weakness, muscle atrophy, and motor paralysis, as the numbness [2]. Numbness is an everyday term, not an original medical term. In everyday use, numbness is often used to refer to sensory abnormality. In the physiological realm, it is described as the feeling of numbness, but in clinical realm, it is described as numbness. In this paper, numbness and numbness sensation aren't distinguished, but described them all as numbness.

Numbness is classified into two types: dysesthesia that is perceived in the absence of external stimuli, and paresthesia in which external stimuli such as touch or pain produce a different sensation [3]. Intense numbness is known to be accompa-

nied by pain [4]. Numbness is defined as any sensory abnormality accompanied by hypoesthesia. Numbness, like pain, is a personal experience of discomfort. Numbness is difficult for others to understand. Patients rarely seek medical care for numbness alone, even if it is painful, unless it is accompanied by paralysis or severe pain. Most people with chronic numbness do not seek medical attention [5,6,7]. In the elderly over 65 years of age, the incidence of peripheral neuropathy with numbness is 7% [8] Among those aged 65-84 years, 15 of 106 (14%) were reported to have numbness in their fingers [9].

Reported causes of numbness include carpal tunnel syndrome [10], cervical spondylosis [11], cervical yellow ligament calcification [12], and acromegaly [13]. Sensory nerve action potentials [14] and neurodynamic tests [15] are used to identify any nerve strangulation sites and syndromes. Western medical treatment of numbness includes soft tissue mobilization [15]. Oriental medical treatment of numbness has been reported to include stellate ganglion acupuncture [16].

The following is a case of acupuncture treatment applied to a 71-year-old

woman with a chief complaint of painful numbness from the wrists to the fingertips in both hands. The first acupuncture treatment was on October 14, X year. She was 153 cm tall, weighed 61 kg. She bruised her right lateral region of abdomen in August, X year, and sprained her right leg in September, X year. In early October, X year, when the pain from the bruises and sprains subsided, she noticed painful numbness in the palms in both hands from wrists to fingertips. She consulted an orthopedic surgeon, but the doctor could not find the cause. Magnetic Resonance Imaging (MRI) was performed to diagnose the head, but there was no abnormality in the brain. She has not visited the orthopedic surgeon since then. When she grips or opens her hand, it is numbness and difficult to use force. She enjoys going to the theater, but the pain and numbness makes it difficult her to continue clapping her hands. Her medical history includes a fall down the stairs 30 years ago that resulted in broken ribs. She has a history of gallstones, cataracts, hematuria, and hay fever. She takes anti-hypertensive medication for high blood pressure. Her social history is currently unemployed. Her family history is that she moved to the big city from the rural area one year ago and lives with her daughter's family.

Examination findings are follows. Looking diagnosis is chubby and obese. The color of the medial aspect of the forearm is red. In listening and smelling diagnosis, she speaks well with a slightly low voice. Five sound is E. Five voice is shouting. Five fragrance is unknown. The results of the asking diagnosis are as follows. Eats three meals a day, with a good

appetite. She prefers salty taste. She sleeps from 10:00 pm to 5:00 am, and sleeps soundly. Bowel movements are once a day and are normal in hardness. Her concerns are tiredness in her eyes, palpitations, lethargy in the lower body, dizziness, thirst, and swelling in the lower extremities. She lives with her daughter's family and has no place to stay comfortably. The dog that the daughter keeps in house does not get along with her and she is stressed out the dog. She has no experience with acupuncture and moxibustion, and does not want it to be painful. The following are the results of touching diagnosis. Blood color of both hands is good. There is no coldness. The sprained right leg has tenderness on the front inner surface. The results of abdominal diagnosis are shiny and plump. The liver area from GB26 to GB29 is soft and most deficient. The kidney area from CV7 to CV2 lacks resilience and the second deficient, which is followed by the liver. The lung area extending slightly obliquely to the right of the navel from right GB24 and SP16 is taut and excess. The spleen area from CV7 to CV12 to centered on the navel is taut and excess. The heart area from CV12 to CV15 is normal. In the pulse quality diagnosis, pulse is sinking, rapid, and deficient. When the pulse is submerged deeply, its contour can be recognized, but it has no elasticity. The comparative pulse diagnosis is as follows. The liver pulse at the second position of the left hand is collapsed when pressed, and is the most deficient. The kidney pulse at the third position of the left hand is weak and the secondly deficient, which is followed to the liver. The lung pulse at the first position of the right hand and the spleen pulse at the second position of the

right hand are excess. The heart pulse at the first position of the left hand and yang meridian pulses are normal.

In the pattern identification of the symptoms by meridian aspects, E of the five sound, shouting of the five voices, redness of the skin, tiredness of the eyes, dizziness, stress from cohabitation and dogs, tenderness in the front inner surface of the right leg are classified the fluctuation of the liver-wood meridian. Preference for salty taste, lethargy in the lower body, and swelling in the lower extremities are classified the fluctuations of the kidney-water meridian. High blood pressure, palpitations, and numbness in the palms of both hands are classified the fluctuation of the heart-fire meridian. The pattern was identified as liver deficient. Since the patient wanted to be treated twice a week, it is thought that her symptoms would improve if the flow of qi and blood was adjusted by the acupuncture and moxibustion treatment, so the treatment was implemented because the prognosis would be good.

The treatment method is as follows. Silver needles of 0.16 mm in diameter and 40 mm long (Asahi), stainless steel needles of 0.16 mm in diameter and 15 mm and 40 mm long (Seirin). Moxa (Nihon-ichi-ougonsan, Yamasho) and warm tube moxibustion (Chouan NEO DX regular, Yamasho) are used for moxibustion. At home, pedestal moxa (Sennen-kyu off regular ibuki, Senefa) is used. The evaluation of the degree of numbness was performed on a Visual Analogue Scale (VAS) with the maximum imaginable numbness intensity being 10. All VASs described hereafter refer to the VAS of numbness.

Treatment Results are as follows. Twenty-three treatments were administered from October 14, X year to February 5, X+1 year. On the first treatment, supplementation was performed on right LR4 and right KI7 with the silver needle. Draining was performed on right ST40 and left GB37 with the stainless steel needle. Extra meridian treatment was applied on right BL62 with a gold grain and left SI3 with a silver grain. The VAS of the palmar region was not changed as 8 before the treatment and 8 after the treatment. In all following treatments, the patient was treated mainly for liver deficiency or kidney deficiency the same as in the first treatment. The acupuncture points at the deficient meridians were treated with supplementation, and the points at the excess meridians were treated with draining.

On the second treatment (October 17, X year), the hand became easier to grip after the treatment and there was no more numbness in the palmar region if the patient was not aware for it. The VAS of the palmar region decreased from 8 before treatment to 1 after treatment.

On the 7th treatment (October 29, X year), the numbness in the palmar region disappeared when the hand was lifted up and the VAS of the palmar region decreased from 8 before the treatment to 1 after the treatment. When the hand was not lifted, the VAS of the palmar region remained at 8.

On the 8th treatment (November 9, X year), the VAS in the palmar region decreased from 8 before treatment to 6 after treatment, even when the hand was not lifted up.

On the 11th treatment (November 21, X year), in addition to the usual treatment,

single stabbing was performed on the tips of the right hand's thumb and index finger with the stainless steel needle. Immediately after, the VAS of the mother and index fingers decreased from 8 to 1 even when the hand was not lifted up.

On the 12th treatment (November 27, X), the VAS of the tips of the fingers of both hands decreased to 1 if nothing was done. However, by rubbing the fingers together and being aware of them, the VAS was increased to 8. From this result, the remaining numbness in the first joint is considered to be paresthesia, in which different sensations are produced by external stimuli such as touch and pain.

On the 13th treatment (November 30, X year), the VAS decreased from 8 to 1 after applying warm tube moxibustion on PC5, PC8, and SP6. She was instructed to perform daily pedestal moxa at home on PC5, PC8, and SP6.

On the 20th treatment (January 15, X+1), the next morning after performing pedestal moxa at home, the VAS of the fingertips was 1. After applying one moxibustion of warm tube moxibustion on the first joint of all fingers of the palmar side, and on PC8 and PC6, the VAS of all fingertips decreased to 1 immediately after the treatment. She was thrilled that she was returned to the condition before she started feeling numbness.

On the 23rd treatment (February 5, X+1 year), VAS became 1 the day after the treatment and the day after she did moxibustion at home. She was pleased that her VAS was 1 all day. The patient herself was convinced of the effect of the moxibustion. During the treatment, when the patient remember a scene decades ago when patient and her daughter went to visit a shrine together, the numbness sud-

denly disappeared.

In discussion, the course of treatment is summarized and the cause of the numbness is identified. The course of reduction of numbness in the upper extremity is as follows. Initially, the patient had numbness in the palms and throughout the fingers. Firstly, the VAS of the palmar region reduced from 8 to 1. Sequentially, the numbness in the fingers was reduced to a VAS of 1 at the third joint and then to the VAS of 1 at the second joint. Finally, the numbness only at the first joint, the fingertip, remained the VAS of 8. At this treatment case study, the VAS became 1 after treatment, and the VAS became 1 all day the day after performing pedestal moxa at home, although treatment of numbness is relatively difficult. In consideration of the cause of the numbness, the VAS at the tips of the fingers of both hands decreased to 1 if the hands were kept raised or not rubbing the fingers together. When rubbing the fingers together and being aware of them, the VAS was returned to 8. From this result, it is clarified that the numbness remaining in the first joint is paresthesia, in which different sensations are produced by external stimuli such as touch or pain. In the classics, numbness in the hands is often associated with liver deficiency, lung deficiency, and spleen deficiency, and moxibustion of the fingertips and relaxation of tension in the neck, shoulders, and back are helpful. In this case study, liver and kidney deficiency were the main patterns. It is thought that treatment of liver deficiency alleviated the nerve strangulation associated with muscle tension in the neck and shoulders, resulting in a decrease in VAS. It is also thought that treat-

ment of the kidney deficiency decreased the VAS as a result of increased nerve blood flow to the ulnar nerve due to the improved flow of qi and blood in the heart meridian. Pedestal moxa at home was highly effective in reducing the VAS of the first joint. The day after the pedestal moxa was performed, the VAS decreased to 1, definitely. For numbness, not only treatment at the acupuncture clinic but also moxibustion at home was clarified to be effective. Currently, she is instructed to do pedestal moxa at home every day. She is treated once a week so that she can maintain a VAS of 1 for as long as possible. The area of numbness was reduced from the entire palm and fingers to only the first joint of the fingers, but the VAS of the first joint was remained 8. If the peripheral nerves were repaired, the VAS values would decrease gradually. Since the highest VAS values did not change, it is possible that the cause of the numbness is not only in the peripheral nerves but also in the sensory areas of the cerebral cortex. It is possible that the stress caused by a major change in living environment may have disrupted the sensory areas of the cortex and formed degenerative areas, similar to the pathogenesis of depression. The VAS was decreased by remembering pleasant scenes from the past spending with her daughter. Remembering pleasant scenes may reduce the effect of the degenerative areas in the cortex. As a result, the numbness was reduced due to the suppression of excitation in the degenerative areas, and the numbness area was shrunk. The home moxibustion treatment is also expected to have an aroma effect of moxa. The aroma effect is thought to have reduced stress and suppressed excitation at the degenerative

site, resulting in a decrease in the VAS. Stress can be alleviated through acupuncture and moxibustion treatment and cognitive behavioral therapy. Further reduction of the size of degenerative areas in the cerebral cortex is thought to be realized by alleviating stress.

In summary, numbness often refers to a specific sensation caused by a combination of sensory escape and sensory abnormality in the extremities due to compression of sensory nerves. Numbness is divided into dysesthesia and paresthesia. Patients rarely seek medical care for numbness alone. Most people with chronic numbness do not seek medical attention, but 14% of the elderly over 65 years of age had numbness in their fingers. The acupuncture treatment was applied to a 71-year-old woman with a chief complaint of painful numbness from the wrists to the fingertips in both hands. The numbness was reduced from 8 to 1 in VAS of numbness after acupuncture treatment or the day after performing daily pedestal moxa at home. The course of the reduction of VAS for numbness in the upper extremity was initially from 8 to 1 in the palmar region. The numbness in the fingers was reduced to the VAS of 1 at the third joint, and then at the second joint. Finally, only at the first joint the numbness was remained. The VAS of the first joints of both hands became 1 if the fingers were not rubbed together. Since the VAS at the first joints of both hands returned to 8 when rubbing the fingers together and being aware of them, it was clarified to be paresthesia. Pedestal moxa at home was effective in reducing the VAS of the first joint. Since the highest VAS values of the first joint did not change, it is possible

that the cause of the numbness is in the sensory areas of the cerebral cortex. It is possible that the stress caused by the major change in living environment may have disrupted the sensory areas of the cortex and formed degenerative areas. The home moxibustion treatment may have reduced the VAS as a result of stress reduction due to the aromatic effect of moxa. Further reduction of the size of degenerative areas in the cerebral cortex is thought to be realized by alleviating stress.

- [1] Physiological Society of Japan, Glossary of Physiological Terms 5th ed., Nankodo, 1998.
- [2] Medical Dictionary 2nd ed., Ishiyaku Pub., 2003.
- [3] Medical Dictionary 18th ed., Nanzando, 1988.
- [4] Akira Arai et al., "Diagnosis of lower extremity pain and numbness", *Spine & Spinal Cord*, vol. 24, pp. 379-384, 2011.
- [5] Hisami Akazawa et al., "Effect of numbness caused by diabetic neuropathy on daily activities", *Medical journal of Hiroshima University*, vol.49, pp.119-129, 2001.
- [6] Shiori Sakai, "The Experience of the people who suffered from post apoplectic numbness as viewed through their daily lives and its meanings", *J. Jpn. Acad. Nurs. Sci.*, vol.28, pp.55-63, 2008.
- [7] Kazue Toki et al., "Numbness and pain experienced by stroke victims", *J. Jpn. Acad. Nurs. Sci.*, vol.25, pp.75-84, 2005.
- [8] M. Baldereschi et al., "Epidemiology of distal symmetrical neuropathies in the Italian elderly", *Neurology*, vol. 68, pp.1460-1467, 2007.
- [9] Kimiko Akamatsu et al., "The relationship between touch-pressure, pinch force, and grip strength and symptoms of numbness in the elderly", *Japanese Journal of Nursing Art and Science*, vol.13, pp.108-116, 2014.
- [10] Shuzi Tokoro, "Numbness of finger", *Journal of Japan of Acupuncture and Moxibustion Society*, vol.21, pp.43-44, 1972.
- [11] Kazuhiro Goto et al., "Toward the clinical assessment in cervical spondylosis associated with paresthesia", *Journal of the Japanese Society of Acupuncture and Moxibustion*, vol.31, pp.263-270, 1982.
- [12] Rintaro Sakamoto et al., "Three cases of cervical myelopathy due to calcification of the ligamenta flava", *Iryo* vol.43, pp.361-365, 1989.
- [13] Masahiro Otomo, et al. "A 34-year-old man with numbness in both hands", *Journal of Japan Mibyou System Association*, vol.11, pp.198-200, 2005.
- [14] Gen Shiraiishi et al., "Clinical validation of sensory conduction in the ring finger associated with hand numbness", *Orthopedics & Traumatology*, vol. 44, pp.985-987, 1995.
- [15] Takanori Takeda, "Intervention effect of soft tissue mobilization on upper limb pain and numbness associated with stiff neck", *Journal of the Japanese Physical Therapy Association supplement*, vol.37, P1-149, 2010.
- [16] Kazushige Ide et al., "A case of cervical spondylosis in which pain and numbness in the left shoulder girdle and left upper extremity improved with manual therapy and stellate ganglion acupuncture", *Journal of the Japanese Physical Therapy Association supplement*, vol.42, P3-B-0963, 2015.

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Dr. Nobuyuki Otsuka

He graduated from Tohoku University in 1985 and completed the first half term of doctoral course of Tohoku University graduate school in 1987. He was awarded doctor degree in 1997 from Tohoku University. He established Hotal Ancient medicine Research Institute (HARI) in 1999. He established Otsuka Clinic for acupuncture and moxibustion after graduated from Meiji school of oriental medicine in 2017. He is engaged in research on oriental medicine such as traditional Chinese medicine, acupuncture and moxibustion, qigong etc.