

THE JOURNAL OF
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Research on Theory, Practice and Integration

KAIM

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Kampo, Acupuncture and Integrative Medicine**

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Editorial

Application of European Herbal Medicine to Kampo Medicine
Hiromichi Yasui

Japanese Acupuncture - Current Research

Japanese Traditional Medicine Text (9) –Obstetrics
Hiroaki Suzuki

Kampo Medicine - Current Research

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- Frailty, Locomotive Syndrome, and Sarcopenia
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Clinical Report 1 (Acupuncture)

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Haruo Yoshimura

Clinical Report 2 (Kampo Medicine)

A Case in Which the Administration of Multiple Kampo Drugs Improved the Symptoms of ASD and ADHD in a 15-year-old Boy
Hideaki Yamaguchi

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MISSION

To disseminate peer-reviewed information on the use of acupuncture and herbs, and integration with western medicine, based on research from an international perspective; thereby stimulating further research, application of documented therapeutic measures; and facilitating dialogue among health care practitioners worldwide.

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Editorial

Application of European Herbal Medicine to Kampo Medicine

Europe has a long history of herbal studies. In ancient Greece, Theophrastus (371–287 BC) wrote *Enquiry into Plants*, and built the foundation of pharmaceutical botany. In ancient Rome, Dioscorides (40? – 90 AD) wrote *Materia Medica*, which contains descriptions of some 600 species of medicinal plants and their effects, and laid the foundation of pharmaceutical botany in Europe thereafter. In the 16th century, O. Brunfels, L. Fuchs, C. de Clusius, J.D. Tabernaemontanus and others published content-rich books that widely spread the knowledge of pharmaceutical botany in society.

Among the medicinal plants described in these books, more than a few share the same origin as medicinal plants in China. For example, peony exists not only in Japan and China, but also in Europe and North America, although the species that exist in Europe is *Paeonia officinalis*, and that in Japan is *Paeonia lactiflora*. With regard to licorice, *Glycyrrhiza uralensis* is commonly used in Japan, while *Glycyrrhiza glabra* is mainly used in Europe.

Ginseng (*Panax ginseng*) is a plant that grows wild in China and the Korean Peninsula (and is also cultivated in Japan today), but an extremely similar plant (American ginseng, or *Panax quinquefolius*) is also found in North America, and was exported in large amounts to China in the 19th to 20th centuries. Called *Huāqí* ginseng, American ginseng, and Cantonese ginseng, it is highly valued in China as a complementary drug that has cooling properties.

Herbs that are similar to medicinal plants used in kampo medicine are also found in Europe and North America. The above are simply a few examples; there are many other closely related plants that offer not exactly the same but similar medicinal effects.

There are two methods for applying European herbal medicine to kampo medicine. One is to use European herbs that are botanically similar to their kampo versions and that provide similar effects as defined in books, as substitutes for the original herbs in kampo medicine. The other is to use herbs that display completely different effects to create prescriptions that provide completely new medicinal effects. In China, from around the beginning of the first century, herbs from the West were included in the pharmacological collection of drugs in the country and were actually clinically applied to establish their medicinal effects. This is clearly apparent by looking at the content of successive pharmacological books in China, beginning with the *Shennong Ben Cao Jing*. When medicine not only of Europe, but also the American continent, African continent and Oceania could be incorporated into the system of kampo medicine will kampo medicine become a worldwide medicine in the true sense of the word.

Hiromichi Yasui

Japan Institute of TCM Research

Japanese Acupuncture - Current Research

Japanese Traditional Medicine Text (9) – Obstetrics

Hiroaki Suzuki

[Chapter 4 Clinical Acupuncture and Moxibustion p217]

1. Introduction

A search of MEDLINE for research literature on clinical acupuncture and moxibustion in obstetrics overseas using the terms ‘obstetrics’ and ‘acupuncture’ obtained 195 results. Some research into acupuncture anesthesia in obstetric surgery was carried out in the 1970s, then from the 1980s a few studies examined analgesia for contractions and delivery, correction of fetal breech presentation and analgesia for caesarian section. There are also papers on treatment of morning sickness and dysmenorrhea. Much clinical research has examined acupuncture and moxibustion associated with assisted reproductive technology (ART), typically in vitro fertilization, with papers addressing improvement of uterine blood flow, alleviation of pain associated with ovum collection, as well as improvement of pregnancy rates. While infertility and breech position are addressed in detail below, three quarters of the 195 papers were published after 2000, suggesting acupuncture and moxibustion have attracted much attention in obstetrics over the last 10 years. Focusing on randomized controlled trials (RCTs), the results include 39 papers on obstetrics (12 on contractions and delivery, 6 on ART, 6 on morning sickness and hyperemesis, and 5 on peripelvic pain, 4 on breech presentation, 2 on mastitis, and 4 on other topics including failure of lactation, caesarian section, climacterium, and premenstrual tension). Most of the papers are from Europe, which accounted for 60% of the total, including 11 papers from Sweden. A meta-analysis¹⁾ of contractions suggests that acupuncture may be useful for alleviating labor pain, however, the sample is small, therefore further research is required.

Clinical obstetrical research in Japan includes a paper by Kakizaki et al. in 1973 on labor induction,

alleviation of pain at delivery, as well as acupuncture anesthesia for caesarean section, and subsequent case reports but no RCTs, so it is difficult to say that there are any papers with a high evidence level at the moment. Among that research is a comparative study by Yasuda et al. on alleviation of pain at delivery using acupuncture anesthesia claiming that electro-needling at Zusanli and Sanyinjiao achieved pain alleviation in all 18 primipara and 83% of the para (12)²⁾. While it has drawbacks, including the fact that the effects of acupuncture anesthesia vary among individuals and that movement is limited for the pregnant women, it does demonstrate alleviation of anxiety in pregnant women owing to alleviation of pain, shortening of the course of labor, and some reduction in the amount of bleeding. It is also safe and simple, making it a method of alleviating pain at delivery with no complications. Additionally, Tsujiuchi has published a comparative study on acupuncture and moxibustion for breech presentation³⁾.

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Mizumoto et al. reviewed 10 papers on low back pain and pelvic pain in pregnant women in a meta-analysis of the safety of acupuncture and its analgesic effects, finding in all papers significant decreases in low back pain and pelvic pain during pregnancy compared to the control group, and finding no adverse event in either mother or newborn.

The topic will now turn to obstetric acupuncture and moxibustion for infertility and breech presentation.

2. Acupuncture and moxibustion for infertility - Overseas

Overseas researchers have published a number of studies into the question of whether acupuncture improves the rate of pregnancy by ART, including an RCT by Paulus (2002), as well as studies by Smith (2006), Dieterle (2006) and Westergaard (2006). As

of 2010, the results of 3 meta-analyses had been published. According to Manheimer et al. (2008), 7 RCTs showed that the odds ratio of clinical gestation in women who received acupuncture was 1.65, the rate of ongoing pregnancy (more than 12 weeks) in 5 of them was 1.87, and the live birth rate in 4 was 1.91, thereby finding significant improvement in the groups receiving acupuncture and moxibustion in each of the RCTs⁵). Further, Cheong et al. (2008) found in 13 well-designed studies that the live birth rate odds ratio for women who received acupuncture on the day of embryo transfer was 1.89, suggesting it is effective⁶). However, El-Toukhy et al. (2008) found that in 5 studies in which acupuncture was performed around the time of ovum collection the clinical gestation risk rate was 1.06; the clinical gestation risk rate was 1.23 in 8 studies in which acupuncture was performed around the time of embryo transfer; and the live birth risk rate was 1.34 in 5 of the 8 studies, thereby finding no significant difference attributable to acupuncture and moxibustion in any of the studies⁷). Thus, while researchers have found that acupuncture is beneficial, some studies found no effectiveness, so further research is required.

Acupuncture's mechanisms of effect

The following are some possible mechanisms of effect in acupuncture for the female reproductive system.

- (1) Effects on the endocrine system: Acupuncture can be expected to affect the menstrual cycle, ovulation and gestation by regulating the discharge of neurotransmitters and stimulating GnRH excretion.
- (2) Improvement of uterine blood flow: Stener-Victorin found that electro-needling improved vascular resistance in uterine arteries between in-vitro fertilization and embryo transfer. This effect is thought to be attributable to the suppression of sympathetic nerve activity.

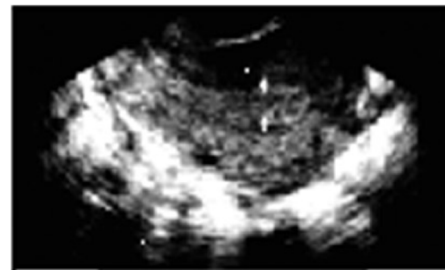
- (3) Stress alleviation: While it has been reported that stress has an impact on infertility, acupuncture can be expected to ease stress by stimulating the production of endogenous opioids.

Before acupuncture and moxibustion



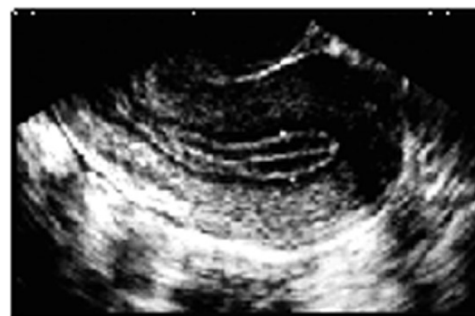
3-layer structure 5 mm

Three months after acupuncture and moxibustion



1-layer structure 9 mm

Six months after acupuncture and moxibustion



3-layer structure 8 mm

Figure 1: Typical transvaginal ultrasound images of a case of endometrial improvement

Before acupuncture and moxibustion endometrial thickness is thin (5 mm), making embryo transfer impossible, however, 6 months after acupuncture and moxibustion, the endometrium has grown to a 3-layer structure and 8 mm, which meets the criteria for embryo transfer thereby allowing embryo transfer.

3. Acupuncture for infertility - Japan

Although no RCTs have yet been published in Japan, Shimizu et al. published a comparative study on the “effects of acupuncture on the menstrual cycle and glycometabolism in women with ovulatory disorder”⁸⁾. The following are some of the effects of acupuncture and moxibustion for infertility we have published.

(a) Acupuncture and moxibustion combined with freeze-thaw embryo transfer in 57 patients with endometrial misshaping and replication study (51st & 52nd Congresses of the Japan Society of Acupuncture and Moxibustion).

Acupuncture and moxibustion were performed for a defined period on 57 patients with intractable infertility, after failing to achieve gestation with at least 3 attempts at ART, and the endometrium failing to meet the defined criteria for formation thereby precluding freeze-thaw embryo transfer despite at least two attempts at endometrial preparation with hormone replacement therapy. Patients' patterns (証) were determined by pulse location and quality diagnosis (脉位脉状診), abdominal examination (腹診), and interview, and the casual or essential treatment (本治法) were performed in addition to local or symptomatic treatment (標治法) at Guanyuan, Zhongji, Dahe, Xuehai, Sanyinjiao, Shenshu, Ciliao and symptom-based selection of other acupuncture points. An electro-moxa device was used on the abdomen and indirect moxibustion was performed at the low to mid back and legs (low back: Shenshu, baliaoxue, legs: Sanyinjiao, Yongquan, Shimian, etc.). Endometrial preparation with a repeated cycle of hormone replacement was performed after acupuncture and moxibustion, resulting in endometrial condition improving to the defined criteria (3-layer structure of at least 6 mm) in 31 (54.4%) of the 57 patients (see Figure 1).

After endometrial improvement, gestation was achieved in 14 (45.1%) of the 31 patients who received freeze-thaw embryo transfer. Furthermore, repeating ART cycles achieved high rates of endometrial condition improvement (2nd cycle: 75%, 3rd cycle: 60%) and gestation (2nd cycle: 44.4%, 3rd cycle: 66.7%). These results suggest acupuncture and moxibustion are effective in improving endometrial condition and contribute to an increase in gestation rates.

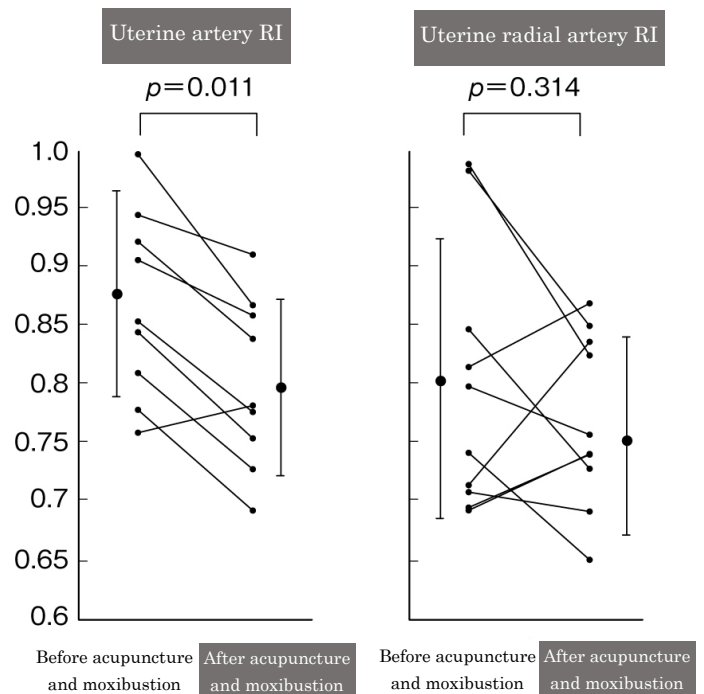


Figure 2: Change in uterine and uterine radial artery RI before and after Zhongliao needling

Transvaginal color Doppler was used to measure vascular resistance on the 3rd-7th day of menses and acupuncture was performed once a week for an average between 7 and 15 times (mean: 9.4). Measurements were repeated on the 3rd-7th day of the second menses after acupuncture commenced. Uterine artery RI decreased in 8 out of nine cases, while the mean also decreased significantly from 0.87 to 0.80 ($p=0.011$). Uterine radial artery RI decreased in at least half, demonstrating a downward trend in the mean from 0.81 to 0.77, however, this was not statistically significant.

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(b) Impact of needling Zhongliao on uterine arterial circulation in infertile patients (51st Annual Meeting of the Japan Society for Reproductive Medicine)

Faced with the need to attempt new therapies for cases in which our usual therapies have not resulted in gestation, we turned our attention to the bladder, another organ within the pelvis along with the uterus and ovaries. Because needling Zhongliao is effective in urology for lower urinary tract symptoms such as overactive bladder and prostate enlargement, nocturnal enuresis, as well as chronic pelvic pain syndrome with venal stasis in the pelvis⁹, we trialed Zhongliao needling, with the promise of its effectiveness on the pelvic organs, for infertility patients.

Our method of needling Zhongliao involved retaining stainless disposable needles (0.3 mm in diameter, 60 mm long) at about 60 mm depth, then manual stimulation at left and right for a total of 10 minutes, with the patient in prone position. After performing acupuncture at Zhongliao only for a defined period on 9 infertility patients, measurements of vascular resistance using color Doppler showed a significant decrease in the uterine artery resistance index (RI) from 0.87 to 0.80, and a decrease in the RI for the uterine radial arteries in at least half, although the decrease from 0.81 to 0.77 was not statistically significant (Figure 2). Furthermore, gestation was achieved in 4 of the 8 patients who received freeze-thaw embryo transfer after acupuncture.

4. Acupuncture and moxibustion for breech presentation - Overseas

In the 1980s, after Yoshiro Hayashida performed moxa needling at Sanyinjiao and moxibustion at Zhiyin to treat breech presentation and showed its great benefits, various overseas researchers conducted RCTs of acupuncture and moxibustion for breech presentation. Searching MEDLINE using the terms “acupuncture” and “breech” results in 10 RCTs

and 1 meta-analysis. In 1998, Cardini conducted an RCT in China on the “effects of moxibustion for correction of breech presentation” with 130 primipara in the 33rd week of pregnancy and a control group of 130. The method involved the pregnant women themselves applying stick moxa at Zhiyin, resulting in cephalic version in 75.4% of the treatment group and 47.4% in the control group, which was a significantly high rate of version in the treatment group. However, the study was criticized for a lack of randomization and placebo. In 2004, Neri published the results of an RCT with 226 pregnant women showing breech presentation in the 33th to 35th week of pregnancy, achieving significant results with needle retention and stick moxibustion. More recently, in November 2009, Guittier et al. published an RCT with 212 pregnant women showing breech presentation in the 34th to 36th week of pregnancy. Their method involved performing moxibustion at Zhiyin and the patients themselves applying moxa at home, which achieved no significant result. The numerous studies to date show the rate of version is low if initial consultation is in the 34th week or later.

In September 2009, Vas et al. published a meta-analysis of 6 studies up to June 2007¹⁰. It covered 1,087 pregnant women showing breech presentation and compared groups in which moxibustion was performed and control groups in which treatment other than moxibustion was performed. The results showed that while the rate of version was 72.5% for groups in which moxibustion was performed, the rate was 53.2% in control groups (relative risk: 1.36, confidence interval: 1.17-1.58). Vas et al. concluded that moxibustion performed at Zhiyin (BL67) was effective.

5. Acupuncture and moxibustion for breech presentation - Japan

Sakago no Shinkyu Chiryō (Acupuncture and Moxibustion for Breech Presentation), written and edited by Shuichi Katai¹¹, reports 14 of the Japanese publications on acupuncture and moxibustion for

breech presentation since World War II in Japan, however, not one of them was a randomized study. Of the total 1,663 cases covered, correction was achieved in 1,382. So, while the rate of correction was 83.1% across all type of the cases, the rate of correction in each type varied between 11.7 and 92.3%. Of the total 210 cases in which treatment started during weeks 32 to 35, when it becomes more difficult for the fetus to change position naturally, correction was achieved in 136 (64.76%). In regard to treatment methods, while many of the publications used Zhiyin and Sanyinjiao, they varied in terms of their methods, types and frequencies. Other than 4 cases of nausea and blistering or pigmentation caused by moxa, no serious symptoms were observed that could be attributed to acupuncture and moxibustion stimulation in the 1,363 cases that did mention adverse events.

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The first to use moxibustion at Zhiyin for breech presentation during pregnancy rather than at delivery was the obstetrician and gynecologist Ishino Nobuyasu. It is said that “Ishino published his findings in 1950 that moxibustion at Sanyinjiao to treat breech presentation was effective in 16 out of 20 patients. ... This paper appears to be the first in the history of acupuncture and moxibustion to use acupuncture and moxibustion to treat breech presentation, which is defined according to Western medical concepts.”

The author says that while in terms of its level of evidence, it is not equivalent to an RCT or meta-analysis, if you take EBM as the starting point, rather than insisting that the evidence must be as high level as an RCT, it makes the practice of EBM possible if it finds benefit for patients, even if it had been, for example, a case control study. The author therefore suggests that acupuncture and moxibustion for breech position is an effective, safe, and comfortable treatment that should be widely used.

6. Issues in clinical obstetric research

From an ethical perspective, making comparisons with no-treatment groups in a clinical acupuncture and moxibustion scenario is difficult and sham needling has not yet been clearly defined, which suggests that further good-quality studies, not just RCTs, must be undertaken. The issue for the future is how to go on disseminating truly useful clinical research from Japan.

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Kampo Medicine - Current Research

Kampo Medicine and Concept of Weak Constitution

– Frailty, Locomotive Syndrome, and Sarcopenia

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Key words: weak constitution, frailty, locomotive syndrome, sarcopenia, asthenic, traditional medicine, *Kampo* medicine, Arthralgia Due to Stagnation of Blood and Consumptive Diseases (*Xue Bi Xu Lao*, 血痺虚劳), Quantification in traditional medicine, globalization of traditional medicine, International Organization for Standard (ISO)

Introduction

In recent years, terms such as frailty, locomotive syndrome, and sarcopenia have been proposed to embody the concept of “weak constitution.” The author has long been occupied with the question: “Is there any concept equivalent to frailty, locomotive syndrome, or sarcopenia in traditional medicine, particularly in *Kampo* medicine?” In practice, concepts quite akin to these terms have been used in *Kampo* medicine, and treatments for such conditions are also found in *Kampo* medicine. In this paper, frailty, locomotive syndrome, and sarcopenia will first be briefly described. The *Kampo* medicine terms (or candidate terms) corresponding to these concepts will then be introduced and compared. We will thus discuss correlations and differences between *Kampo* medicine and Western medicine. Due to limited space, only representative examples will be cited. After these discussions, the author will point out unaddressed issues associated with *Kampo* medicine research in order to provide hints that may stimulate future advances in *Kampo* medicine research. At the unaddressed issues related to *Kampo* medicine research, we will first discuss issues related to

quantification in traditional medicine and then consider issues related to the globalization of traditional medicine.

1. Summarization of the terms frailty, locomotive syndrome, and sarcopenia

The concepts of frailty, locomotive syndrome, and sarcopenia will first be briefly described. The term “frailty” is used in the field of geriatric medicine. This term indicates weak constitution, senile decay, and weakening or vulnerability. In short, it is used to describe aging-associated irreversible weakness. Frailty may also be used to describe the state in the senile period (a period of discrepancy between healthy life expectancy and mean life expectancy), which is characterized by reduced physiological reserve resulting in the outcomes such as vulnerability to stress, disturbance in activities of daily living, requirement of assistance with daily living, and likelihood of death.

The term “locomotive syndrome” is used in the field of orthopedics. Unlike the term “frailty,” which is a broad concept encompassing physical, mental/psychological, and social aspects, the term “locomotive syndrome” is a narrower term confined to the fields of orthopedics and rehabilitation. It is used to indicate “a condition of restricted daily living due to reduction in mobility (walking, standing and sitting, etc.) arising from locomotor organ dysfunction, leading to need or imminent need of assistance with daily living.” Locomotive syndrome was proposed as a new concept at the meeting of the Japanese Orthopaedic Association in 2007¹⁾. Since this condition may show recovery in response to appropriate treatment, early diagnosis is considered to be of high value.

Moreover, the concept of “sarcopenia” was recently proposed to indicate aging-associated reduction in muscular mass and muscular strength²⁾. Sarcopenia is one of underlying diseases of locomotive syndrome, focusing on reduction in muscular mass and muscular strength. The term was coined based on the Greek words sarx (flesh) and penia (loss). Disturbed

walking/balance associated with sarcopenia can lead to aggravation of frailty.

Now that the differences among frailty, locomotive syndrome, and sarcopenia have been briefly described, we will begin a more detailed discussion of frailty, locomotive syndrome, and sarcopenia. According to Fried et al., frailty is defined as “A physiologic syndrome characterized by decreased reserve and resistance to stressors, resulting from cumulative decline across multiple physiologic systems, and causing vulnerability to adverse outcomes”³. The concept of “frailty” is easy to understand for clinical practitioners, but is difficult to define strictly. For this reason, the five phenotypes of frailty proposed by Fried in 2001 seem to be used frequently during clinical practice. The five phenotypes comprise (1) weight loss, (2) fatigue (subjective sensation of fatigue), (3) low energy expenditure (reduction in activity of daily living), (4) slow gait (weakening of physical capability [walking speed]), and (5) weak grip (reduction in muscular strength [grip strength]). Patients with at least three of these phenotypes are considered to have “frailty” and those with one or two phenotypes are considered “intermediate” or “pre-frail”⁴. Frailty is in essence a reversible condition in which normalcy may be restored if the appropriate intervention is used. For this reason, early detection of frailty in elderly individuals and subsequent appropriate intervention is expected to enable the maintenance and improvement of functions of daily living. Although the Japanese term “*Kyojaku* (虚弱) or weak constitution” may be used as a translation for “frailty,” it cannot sufficiently express the diverse elements of frailty (i.e., weakness in the physical, mental/psychological, and social aspects). The Japan Geriatrics Society is thus exploring a more appropriate Japanese term as a translation for frailty to lead to widespread recognition of frailty and dissemination of the importance of its prevention. “Frailty” may be caused by a variety of factors, including not only locomotor organ disease and aging, but also disturbed cognitive function, nutrition, mental state, and socioenvironmental

factors. Epidemiological studies have demonstrated a close association between frailty and cognitive dysfunction. Although the exact mechanism is unknown, it has been epidemiologically shown that early detection of cognitive dysfunction is important to prevent frailty. In order to avoid frailty, maintain and improve functions of daily living, appropriate interventions based on more accurate epidemiological data are desirable. An important issue for the future is the execution of appropriate screening tests at early stages of the condition.

Frailty is a broad concept encompassing physical, mental/psychological, and social aspects. Locomotive syndrome, on the other hand, is a concept used in orthopedics and indicates a condition of restricted daily living due to reduction in mobility (walking, standing and sitting, etc.) arising from locomotor organs dysfunction, leading to need or imminent need of assistance with daily living. Since this condition may show recovery in response to treatment, early diagnosis is considered to be of high value.

Sarcopenia is attributable to reduction in muscular mass, muscular strength, and physical capabilities, and is a condition that may underlie locomotive syndrome. It is a term that has been coined relatively recently by Rosenberg and indicates the “aging-associated reduction in muscular strength or senescence-associated decrease in muscular mass”⁵. The decrease in skeletal muscle mass is assessed using the skeletal muscle index (SMI), which is calculated by dividing the limb skeletal muscle mass (kg) by the square of height (m), i.e., limb fat-free soft tissue quantity (kg)/height (m²). A SMI of 2 standard deviations (SDs) below the mean SMI of healthy individuals aged 18-40 years is often considered to reflect significant decreases in skeletal muscle mass⁶. In 2010, the European Union Geriatric Medicine Society and 4 European and international societies related to nutrition jointly established the European Working Group on Sarcopenia in Older People (EWGSOP), which proposed a definition for sarcopenia⁷. Based on this definition, a diagnosis of

sarcopenia can be made if there is decreased skeletal muscle mass (essential) and either reduction in muscular strength or locomotor function, or both, are present. The parameters assessed to diagnose frailty include attenuation of physical function and reduction in muscular strength. This indicates that sarcopenia is closely associated with frailty. The presence of sarcopenia is associated with dizziness, fall/fracture, and frailty in elderly individuals, and correlates closely with physical dysfunction and conditions requiring assistance with daily living⁸).

2. The term “asthenic” was seemingly used in the early 20th century.

Concepts such as frailty, locomotive syndrome, and sarcopenia, which correspond to the Japanese term “*Kyojaku*” or “weak constitution” were already in use at the beginning of the 20th century in Western countries. In 1908, a publication in the journal *Lancet* used the term “asthenic constitution” to indicate the group of diseases causing “atonic habit of body” in the broader sense of the term. These conditions included floating kidney, gastroptosis, enteroptosis, nervous dyspepsia, and neurasthenia⁹. The term “asthenic” seems to have been a word that was prevalent in those days. This term was also used in the famous paper on body build and physical constitution typing by Kretschmer. Kretschmer described three types of body build: pyknic (stocky and rounded), athletic (with strong development of muscles and bones), and asthenic or leptosomatic (lean and narrow)¹⁰.

3. What is the traditional medicine term corresponding to frailty, locomotive syndrome, and sarcopenia?

Before discussing *Kampo* medicine terms corresponding to frailty, locomotive syndrome, and sarcopenia, we will focus only on the physical aspects of frailty without considering the mental/psychological and social aspects mentioned in its definition to simplify the discussion. We will thus treat locomotive syndrome and frailty as the

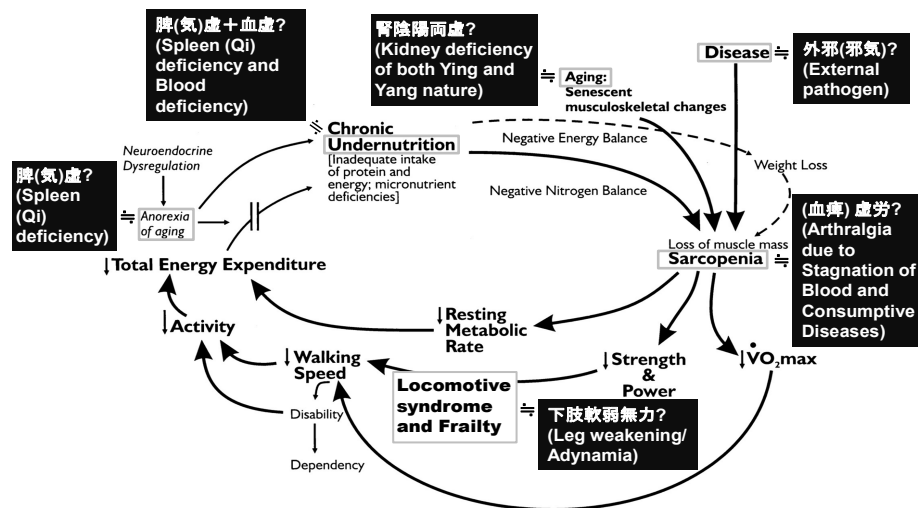
same concept and explore *Kampo* medicine terms corresponding to this concept.

The *Kampo* medicine or traditional Chinese medicine terms corresponding to locomotive syndrome and frailty seem to be “leg weakening/adynamia” and “weakening/adynamia,” which were used in “*Dokkatsukiseito*, or Pubescent Angelica and Taxillus Decoction (*Du Huo Ji Sheng Tang*, 獨活寄生湯)” in the monograph “Important Formulas Worth a Thousand Gold Pieces (*Bei Ji Qian Jin Yao Fang*, 備急千金要方)”¹¹. “Pubescent Angelica and Taxillus Decoction” is an Eight-Treasure Decoction (*Ba Zhen Tang*, 八珍湯) made of a Four-Substance Decoction (*Si Wu Tang*, 四君子湯) with blood-replenishing activity and a Four-Gentlemen Decoction (*Si Jun Zi Tang*) with *Qi*-replenishing (補氣) activity. This herbal mix has been used to treat (1) conditions characterized by physical senescence (kidney deficiency according to traditional Chinese medicine); and (2) those condition involving shortages of *Qi* and blood accompanied by cold sensation and pain in the lower back and knees due to moisture or water retention, and by fear of coldness, pleasure with warmth, weak/powerless legs, and paralysis/neuralgia/swelling attributable to external factors (invasion by disturbing factors, such as wind, coldness, and moisture). In Japan, Pubescent Angelica and Taxillus Decoction is often replaced with an herbal extract called “Relax the Channels and Invigorate the Blood Decoction (*Hu Jing Huo Xue Tang*, 疎經活血湯),” which is covered by the national health insurance system.

The term corresponding to sarcopenia seems to be “Arthralgia Due to Stagnation of Blood and Consumptive Diseases (*Xue Bi Xu Lao*, 血痺虛勞),” which is found in the Astragalus Decoction to Construct the Middle (*Ogikenchuto*, Huang Qi Jian Zhong Tang, 黃耆建中湯) or Minor Construct the Middle Decoction (*Shokenchuto*, Xiao Jian Zhong Tang, 小建中湯) in the monograph “*Kinkyoryaku* (Essential Prescriptions from the Golden Cabinet, *Jin Gui Yao Lue*, 金匱要略)”¹². This expression is found in the chapter “On Pulse, Symptom Complex

and Treatment of Arthralgia Due to Stagnation of Blood and Consumptive Diseases (血痺虚劳病脈証并治)” in the same monograph. Both the Astragalus Decoction to Construct the Middle and the Minor Construct the Middle Decoction are herbal preparations used to treat consumptive disease (虚劳). In traditional Chinese medicine, they are classified as *Onrikyokanzai* (agents used to reverse warmth and control coldness, 温裏祛寒剂). The concept of “decrease of skeletal muscle mass,” which is used in the current definition of sarcopenia, was undoubtedly absent in the age of “*Kinkyoryaku* (Essential Prescriptions from the Golden Cabinet).” However, patients with conditions corresponding to sarcopenia, i.e. patients with frailty presenting with decreased skeletal muscle mass, reduced muscular strength, or reduced locomotor function, are likely to have chronic disease or senescence as a background. The presence of chronic disease or senescence is probably accompanied by asthenia cold (Yang deficiency, 陽虚). Therefore, the use of *Onrikyokanzai* (agents used to reverse warmth and control coldness), which is indicated for asthenia cold (Yang deficiency) is expected to be effective in patients with sarcopenia.

The author believes that aging corresponds to “kidney deficiency of both Ying and Yang nature (腎陰陽兩虚)” (a concept of traditional Chinese medicine and Japanese *Kampo* medicine), while long-term malnutrition corresponds to the concept of “spleen (Qi) deficiency (脾(氣)虚)” or “blood deficiency (血虚).” The author has compared these concepts using an illustration of the vicious cycle of frailty, locomotive syndrome, and sarcopenia, as proposed in the field of geriatric medicine in Western medicine¹³⁾ (Figure). This illustrative comparison includes some indefinite points. For example, reduced walking speed is a concept that began to be used when accurate measurements of time became possible and was absent in the age of “*Kinkyoryaku* (Essential Prescriptions from the Golden Cabinet).” However, if “Symptom Complex of Arthralgia (痺証)” is present, a reduction in mobility should be present, and a reduction in walking speed is a plausible consequence. However, the author cannot rule out the possibility that new literature/documents will be found later indicating that a concept corresponding to reduced walking speed was used already in those days. This illustration is only the author’s proposal and may require correction, improvement, and review in the future.



Adapted from Linda P. Fried et al. J Gerontol A Biol Sci Med Sci 2001;56:M146-M157

Figure: Cycle of frailty with *Kampo* terms: Under-nutrition, Aging, and Disease will lead elderly people to sarcopenia. And sarcopenia lead to loss of walking-speed, which is one of the frailty sign.

4. Existing issues essential to advancement of traditional medicine research

4-1 Quantification in traditional medicine

A striking difference in the diagnostic methods between *Kampo* medicine and modern medicine is that *Kampo* medicine basically attempts diagnosis and treatment through the comprehensive interpretation of subjective symptoms and objective findings or through holistic assessment of individual patients. One problem in *Kampo* medicine research that arises from this feature is difficulty in numerical or quantitative analysis when compared to Western medicine. However, quantitative analysis of parameters serving as criteria for diagnosis in traditional medicine will also be indispensable in the future. Surprisingly, there was little difference between *Kampo* medicine and Western medicine in the level of diagnosis/treatment until about 100 years ago, and the outcome of treatment for Spanish flu was better with *Kampo* medicine than with Western medicine. However, due to advances in science during the past 100 years, the predominance of modern medicine/Western medicine has been established. Following recent advances in technology used for measurements for medical use and in medical imaging technology, biochemical and diagnostic imaging data have frequently been used for diagnosis in modern/Western medicine. In contrast, in traditional medicine/*Kampo* medicine, the quantitative approach is seldom used, except for some sporadic cases wherein information regarding subjective symptoms obtained in interviews, questionnaires, etc., and physical findings (such as findings from abdominal investigations) is processed numerically. The methods used for quantitative analysis vary greatly among the different schools of traditional/*Kampo* medicine. In the latter half of the 1980s, Terasawa et al. made several attempts to quantitatively analyze diagnostic scores for *Qi* Blood-Fluid¹⁴⁾ and similar tests. However, traditional/*Kampo* medicine is far behind the advanced level of modern medicine in the

quantitative approach to diagnostic imaging and molecular biology.

In the future, it would be desirable to conduct comparisons and analyses of the correlations between quantitative data obtained in traditional medicine and data obtained in modern medicine regarding clinical indicators and biochemical markers. It would also be desirable to conduct pharmacological and molecular biological studies to enable the detailed visualization of biological activity and drug delivery at the molecular level so that further advances in traditional medicine research can be linked to life science research. Eventually, the development of diagnosis/treatment methods through the integration of modern medicine (Western medicine) and traditional medicine (*Kampo* medicine) beyond the borders of these two fields may contribute to further advances in medicine.

For example, we have introduced "New clinical assessment in diastolic heart failure: The correlation between a combination of clinical findings and indices with echocardiography"¹⁵⁾¹⁶⁾. We studied more than 30 outpatients at the hemodialysis unit with simultaneous *Kampo*-scores and echocardiographical indices with echocardiography. They measured and compared *Kampo*-scores and echo-cardiographical indices by linear regression. According to our study, some of the *Kampo*-scores (*Suitai*-score (or water stagnation score)) had strong positive correlation to E/Ea (or E/e': transmitral early diastolic velocity / mitral annular early diastolic velocity ratio), which were suggested to have strong relation to pulmonary capillary wedge pressure (PCWP). They suggested that *Kampo*-scores especially *Suitai*-score could be used to define clinical assessment of congestion in hemodialysis outpatients with diastolic heart failure.

In order to address sarcopenia and the evidence in "Arthralgia Due to Stagnation of Blood and Consumptive Diseases" presented in the author's previous and present papers, we plan to collect not

only traditional medicine data from patients satisfying the diagnostic criteria for sarcopenia, but also data on biomarkers (e.g., inflammatory markers such as tumor necrosis factor- α and interleukin-6)¹⁷⁾ and imaging findings (computed tomography, magnetic resonance imaging, etc.). We will then study the correlations among these data. In addition, treatment of sarcopenia and “Arthralgia Due to Stagnation of Blood and Consumptive Diseases” using modern medicine will be compared to that using traditional medicine through randomized controlled trials (RCTs) if possible, or by means of cross-over trials if RCTs are not possible. We believe that diagnosis/treatment methods combining modern medicine (Western medicine) with traditional medicine (*Kampo* medicine) can be established through these incessant studies. It is desirable that such a scientific and objective version of traditional medicine be established as soon as possible.

4-2 Trends of globalization of traditional medicine

Differences in traditional medicine from different countries have been discussed at international conferences, such as meeting of the International Organization for Standardization (ISO; in particular TC249, which is discussed later) and the World Health Organization (International Classification of Diseases 11, etc.). However, smooth arguments have been hampered by conflicts of political and economic interest, honor/prestige of each country, and so on.

In 2009, China submitted an application for the establishment of the organization of an expert committee on traditional Chinese medicine (TC249) to the ISO in an attempt to facilitate the adoption of Chinese pharmacopeia and other domestic standards directly as global standards. If the standards proposed by China are adopted as global standards, Japanese pharmacopeia (now securing the quality of herbal medicines used in Japan from the viewpoint of Western medicine) and other standards related to herbal mixtures and *Kampo*

preparations may have to be modified to match the Chinese domestic standards. Needless to say, a similar influence will also be seen in Korea, the U.S., and other countries in addition to Japan. At present, there is little international understanding of the differences between *Kampo* medicine in Japan and Chinese medicine. In addition, many individuals in Japan (other than healthcare professionals) believe that *Kampo* medicine in Japan is identical to Chinese medicine. However, the differences between *Kampo* medicine and Chinese medicine are as large as the differences between baseball and softball, and it would be impossible to apply the same rules to both these types of medicine. *Kampo* medicine in Japan is far behind Chinese medicine in terms of globalization effort. In addition, the education for non-experts in Japan is insufficient.

Conclusions

This paper briefly described frailty, locomotive syndrome, and sarcopenia, which are important problems in ultra-aging societies. The author then presented terms (or candidate terms) in *Kampo* medicine and traditional Chinese medicine corresponding to these concepts. This was followed by a comparison among these concepts and the description of some herbal preparations used for their treatment. The author also addressed existing issues essential to the advancement of traditional medicine research, focusing on the issues of quantification in traditional medicine and the globalization of traditional medicine. The author hopes to make some contribution to the stimulation of progress in traditional medicine research in the future.

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Clinical Report 1 (Acupuncture)

Rubbing Acupuncture Method: A Case Report for Dementia

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1. Introduction

The Ministry of Health, Labour and Welfare estimates that the number of elderly persons with dementia at a degree of independence level II or higher totaled 2.2 million as of 2010, and will continue to increase hereafter to 4.7 million in 2025. People of the baby-boom generation will all become age 75 or older in 2025. It is a reasonable figure when considering today's rate of increase of elderly people with dementia, and requires urgent measures to be taken hereafter.

Under this situation, focusing on the peripheral symptoms of people with dementia reveals symptoms that are thought to occur from emotional stress, such as anxiety, restlessness and loss of confidence, and symptoms that occur from an imbalance of the autonomic nerve system. This is similar to autonomic nerve imbalance and stress that are triggered by a baby crying at night or baby colic. In simple terms, it was thought that if the cause is the same, the same treatment method might apply, and thus pediatric acupuncture came to mind. Pediatric acupuncture involves rubbing the skin as a procedure for treating night-crying and colic in babies, and has been popularly practiced in Osaka since ancient times. It was thought that the procedure could regulate the autonomic nerves and mitigate the peripheral symptoms of dementia.

Based on this thinking, this writer developed an original rubbing acupuncture tool for adults called SAKKA (the term 'sakka' means rubbing in Japanese), and launched a procedure that uses SAKKA, Enrishin round-head needles and roller needles to rub the skin. Because it does not harm the body in any way, SAKKA not only provides

reassurance to those receiving the treatment as an extremely safe method, but can be applied conveniently, and has high reproducibility.

The rubbing acupuncture method has already been applied to a total of some 6,400 elderly people with dementia living in group homes in Osaka City, over a period of nine years. The following is a report that focuses on one of those cases.

2. Case

The subject is an 88-year-old widow who lived alone, as her son and daughter had already gone out on their own. Two years ago, she lost her balance and slowly collapsed on a bicycle that was parked in the yard in front of her house. She suffered a simple fracture of the femur. She had an operation to set her bone using a metal plate, but became unable to walk. Her dementia advanced sharply after the operation, to the point that she became unable to comprehend where she is. Her children could not live with her because of their jobs and families, and the difficulty of providing at-home nursing care made it impossible for her to live alone. Upon being discharged from the hospital, she was admitted to a group home. Unable to walk on her own, she depended on a wheelchair to move around. Her upper limbs were fine, she could eat, wash her face, and get dressed on her own. She required some assistance to defecate and bathe. She was able to turn over in her sleep by herself, but required some assistance to get up and transfer to her wheelchair. She spent a long time lying down. She used eyeglasses, but her vision was normal. So were her senses of hearing and smelling. When she was first admitted to the nursing home, she was certified as requiring a nursing care level of 4, and had a degree of independence level of IIIb. She displayed an extremely strong desire to go home, and would repeatedly and with frustration ask the staff to let her go home, whenever she spotted any staff member. She had a strong tendency to refuse nursing care, stemming from her helplessness in having things

her way. She was diagnosed with mixed dementia, with characteristics of both Alzheimer's disease and cerebrovascular dementia. She suffered depression, insomnia, anxiety and restlessness. She displayed a level 8 on the face scale, and had a sad expression. She has no past medical history, and took no medicine for her dementia. She had never experienced acupuncture and moxibustion, and had a sense of fear of being pricked by a needle.

1) Method of treatment

A KN petit roller, Enrishin needle and SAKKA (rubbing acupuncture tool) were used to rub the skin. Each procedure consisted of the following routine from (1) to (9) as the basic procedure. (Figure-1)

- (1) Rub the anterior surface of the forearm along the meridian flow from the elbow to the fingertips with a KN petit roller
 - (2) Rub the posterior surface of the forearm along the meridian flow from the fingertips to the elbow with a KN petit roller
 - (3) Trace the eyebrows from the inner to outer side of the face with a KN petit roller
 - (4) Trace the eyebrows from the inner to outer side of the face with an Enrishin needle
 - (5) Rub the temporal muscles on both sides of the head in a fan-like manner with an Enrishin needle, toward the Kakuson acupoint as though to stretch the muscle
 - (6) Rub from the top of the head to the forehead with an Enrishin needle
 - (7) Rub from the top of the head to the nape of the neck with an Enrishin needle
 - (8) Rub both sides of the dorsal spine diagonally downward from top to bottom, with a KN petit roller
 - (9) Rub both sides of the dorsal spine diagonally downward from top to bottom, with a SAKKA
- * In all cases, the procedure was applied with careful attention to rubbing intensity, in consideration of the patient's skin condition, state of perspiration, and reddening of the skin.

The procedure was completed when the patient's skin became moist and a general reddening appeared.

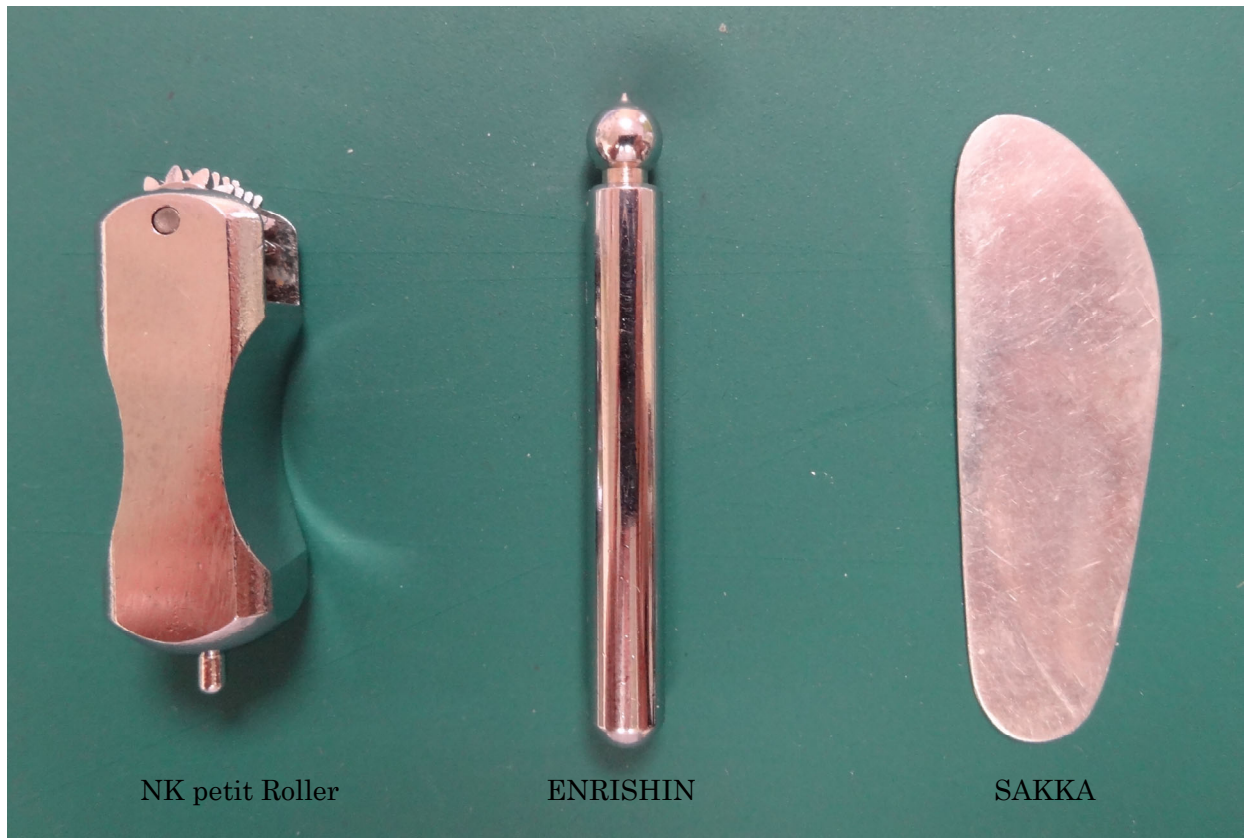
- * With the progress of treatment, the patient became able to walk, but nighttime pains occurred from a circulatory deficit in her lower limbs, so rubbing was also performed on her lower legs using a roller needle.
- * Observations were made of changes in the degree of peripheral symptoms, changes in expression according to the face scale (Figure-2), changes in expression according to the staff's response a question, and changes in care burden, as evaluation criteria.

2) Result

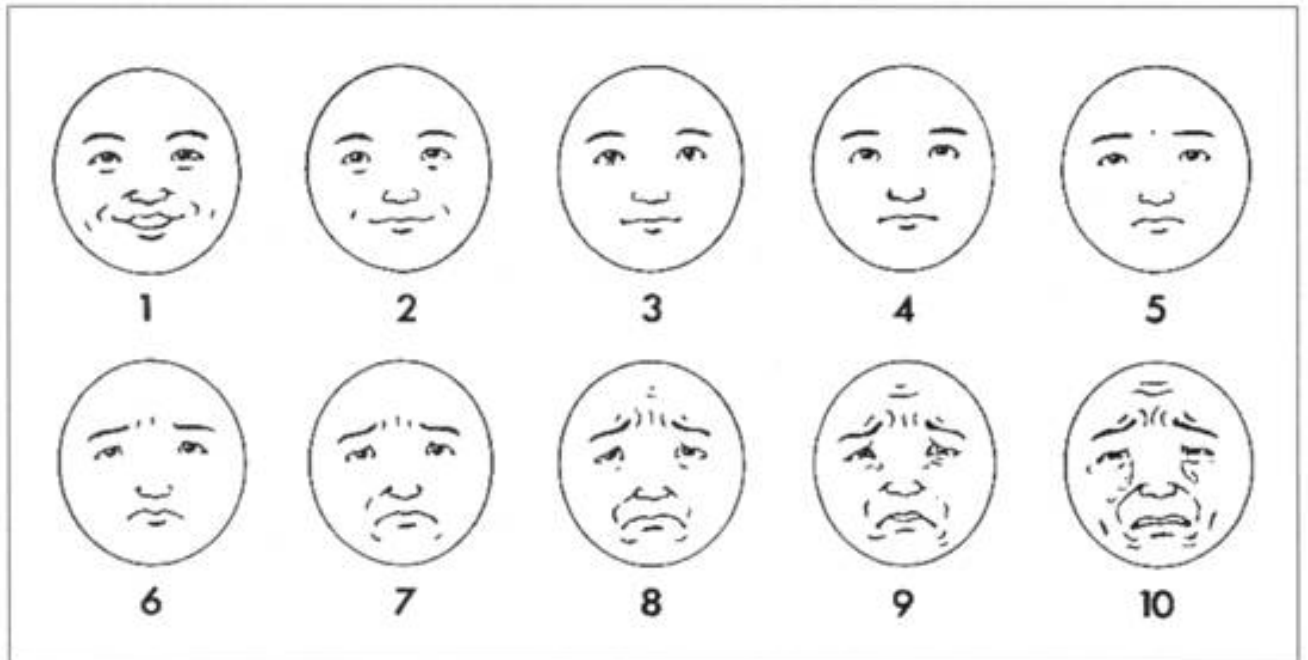
The procedure was applied once a week 26 times from June 5 to November 27, 2013.

1st treatment (6/5): The patient had no experience with acupuncture and moxibustion, so she had a worried expression when she heard the term acupuncture. The treatment was applied with the patient sitting in a wheelchair escorted by a nursing staff. After the treatment, the patient's expression improved from a level 8 to level 3 on the face scale (Table -1), and a smile appeared on her face, although it was still somewhat stiff. She voiced that she felt good. Basic treatment.

2nd treatment (6/12): The treatment was applied with the patient sitting in a wheelchair. She remembered the previous treatment, and expressed her opinion that it had felt good. Her unhappy feelings disappeared even before the treatment, and her depression also abated. She was smiling from before the treatment, without any stiffness. She said the area where she had surgery for her right femur fracture hurt, and she also had lower back pain. She spoke actively. Expression level 2 on the face scale. Basic treatment.

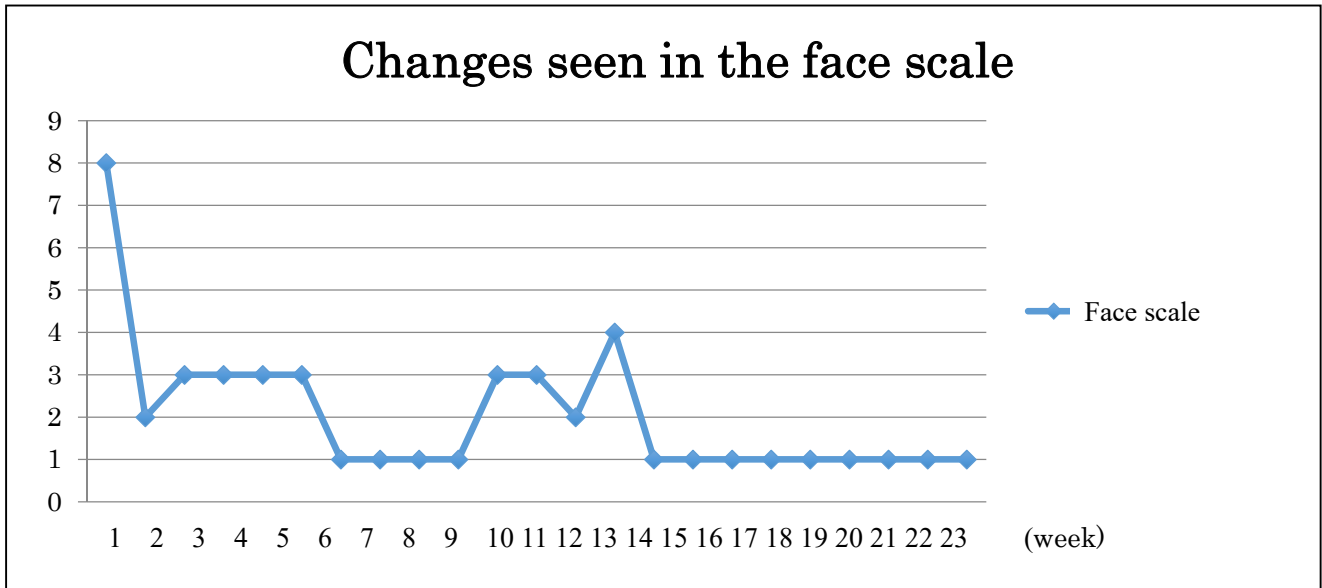


(Figure 1)



(Figure 2 Face scale)

(Table 1)



3rd treatment (6/26): The patient voiced her feeling that the treatment felt good. However, she seemed slightly out of sorts, and her smile was somewhat stiff. She talked much about her family, and desired to go home. She had been refusing to bathe, but with some prompting, she took a bath immediately after the treatment. Expression level 3 on the face scale. Basic treatment.

4th treatment (7/3): The patient came to the treatment room not on a wheelchair, but using a walker. She said she had been doing walking exercises since she came to the nursing home, but she found it difficult to walk. After the treatment, she noted that she felt good. Her smile seemed stiff, perhaps because she was tired due to her walking exercise. Expression level 3 on the face scale. Basic treatment.

7th treatment (7/24): The patient was using her walker. Her post-operative progress was good. She volunteered that she has begun to feel good, and that she had been looking forward to the day's treatment. She talked about her house and her family without any sense of anxiety or restlessness, and her desire to go home seemed to have weakened. She no longer called on the staff

and repeatedly asked to be taken home. She came to her treatment with a full smile on her face. She had been refusing to bathe, but with some prompting, she took a bath immediately after her treatment. Expression level of 1 on the face scale. Basic treatment.

8th treatment (7/31): The patient was tired from going to the hospital the previous day, and seemed slightly out of sorts. However, she said her body felt lighter, and she felt good. Expression level of 1 on the face scale after treatment. Basic treatment.

13th treatment (8/28): She said her surgery site hurt, and she found it difficult to sleep at night. Her smile seemed to be stiff, perhaps due to lack of sleep. She had been refusing to bathe, but with some prompting, she took a bath immediately after the treatment. Expression level of 3 on the face scale. Basic treatment.

17th treatment (9/25): The patient had caught a cold, and coughed up blood in her sputum. She had no fever or chills, but her throat and back of her nose were swollen. She was administered a cold medicine. Her smile seemed stiff, perhaps due to her cold. Expression level of 3 on the face scale. Basic treatment.

- 18th treatment (10/2): The patient's cold had abated. She seemed more energized, and the stiffness had disappeared from her smile. Expression level of 2 on the face scale. Basic treatment.
- 19th treatment (10/9): The patient said her body felt heavy, and she felt strong pain in her surgical site. Her smile was stiff, perhaps due to the pain. She did not refuse to bathe, but she asked if she should. She took a bath when prompted, and repeated this thereafter. Expression level of 4 on the face scale. Basic treatment.
- 20th treatment (10/16): The patient said her cold was completely gone, and she was beginning to feel much better. The pain in her surgical site had improved, and a smile returned to her face. Expression level of 1 on the face scale. Basic treatment.
- 22nd treatment (10/30): The patient began to talk a lot, and said she felt much better. She said her body felt lighter after the treatment, and she felt good. She came to her treatment with a full smile on her face. Expression level of 1 on the face scale. Basic treatment.
- 25th treatment (11/20): The patient experienced a reddening of her feet below the ankle in the middle of the night, and woke up in pain a number of times. The symptom did not appear during the daytime, however, and she came to her treatment with a full smile on her face. Expression level of 1 on the face scale. Basic treatment + roller acupuncture of the lower limbs.
- 26th treatment (11/27): The patient was in good physical condition, and her legs had come to feel light. She began walking using a rollator beginning from this day. She came to her treatment with a full smile on her face. Expression level of 1 on the face scale. Basic treatment + roller acupuncture.

Thereafter until today, the patient has been stable, with no recurrence of psychological / behavioral disorders, and is showing good progress.

Ten nursing staff members were asked whether the patient's expression changed immediately after treatment, according to 5 levels: "Changed significantly," "Changed somewhat," "Did not change," "Worsened somewhat," and "Worsened significantly." Five responded "Changed significantly," four responded "Changed somewhat," and one responded "Did not change."

When combining "Changed significantly" and "Changed somewhat," 90% of respondents said the patient's expression "changed." No respondents gave "Worsened somewhat" or "Worsened significantly" as their answer.

The respondents were also asked to rate the changes in nursing case burden immediately after the treatment, according to the 5 levels of "Decreased significantly," "Decreased somewhat," "No change," "Increased somewhat," and "Increased significantly." Two responded "Decreased significantly," five responded "Decreased somewhat," and three responded "No change."

When combining "Decreased significantly" and "Decreased somewhat," 70% of respondents said nursing care burden "decreased." No respondents gave "Increased somewhat" or "Increased significantly" as their answer.

Another question asked the respondents to rate how the patient's expression changed from before the treatment compared to today, also according to 5 levels. Four responded "Changed significantly," five responded "Changed somewhat," and one responded "No change."

When combining "Changed significantly" and "Changed somewhat," 90% of respondents said the patient's expression "changed." No respondents said her expression "Worsened somewhat" or "Worsened significantly."

Yet another question asked the respondents to rate how their nursing care burden changed from before the treatment compared to today, similarly according to 5 levels. One responded "Decreased

significantly,” six responded “Decreased somewhat,” and three responded “No change.”

When combining “Decreased significantly” and “Decreased somewhat,” 70% of respondents said nursing care burden “decreased.” No respondents said their burden “Increased somewhat” or “Increased significantly.”

3. Observation

The patient’s expression level of 8 on the face scale before the first treatment improved to level 3 immediately after the treatment. In a question that was put to the nursing staff, 90% responded that the patient’s expression “changed” immediately after treatment. The patient constantly smiled thereafter, and the unhappy feelings she had before treatment disappeared. Her anxiety and restlessness abated, and her sense of depression also disappeared. In a question that was put to the nursing staff, 70% responded that their nursing burden “decreased” immediately after treatment. The patient’s desire to go home and her refusal to bathe also dissipated, and she began to not only look forward to the treatment, but to also voice her feeling that she had been looking forward to it. The nursing staff became able to eliminate the time and effort to cajole the patient to doing something she refused to do, and their nursing burden decreased.

The patient had never experienced acupuncture treatment, and had a sense of fear of being pricked by a needle, but her first treatment dissipated her worries, and the treatment was able to be continued. In a question put to the nursing staff, 90% responded that the patient’s expression “changed” when comparing her expression before the treatment and today, and 70% responded that their nursing burden “decreased” when comparing the burden before treatment and today. The patient’s expression improved significantly and the staff’s nursing burden decreased immediately after the treatment, and these aspects remained stable thereafter,

indicating the continuous effect of the treatment. By continuing the treatment, the patient’s anxiety, restlessness, and depression coming from these feelings disappeared, she became more motivated, she stopped refusing nursing care, and became able to communicate better with the nursing staff and other residents. These improvements also helped decreased the staff’s nursing burden.

Kurosawa et al.¹⁾ reports that non-invasive mechanical stimulation on the skin promotes dopamine secretion from the nucleus accumbens. Dopamine is said to be a “pleasure” hormone. When considering the fact that the patient’s expression rapidly loosened after the treatment and she began to smile more often, that her anxiety, restlessness and depression disappeared and remained gone, that she constantly noted that her body felt lighter, and that she remembered her previous treatment and said she had been looking forward to the next treatment whenever she came in for her treatment, the writer thinks a dopamine activation system was involved as a reward system.

Depending on the severity of dementia, rubbing acupuncture treatment may have an even greater effect by applying it not only once but two to three times a week.

4. Conclusion

This case indicates that rubbing acupuncture, by its method of rubbing the skin without harm to the body in any way, may be safely applied within around seven minutes, causes no fear of being pricked by a needle, and has hardly no side effects. It can be applied with the patient sitting or lying down, and is thus a simple procedure that anyone can receive, including people who are confined to the bed or who cannot maintain a sitting position. The side effects of taking multiple drugs have become a problem today, but rubbing acupuncture causes hardly any side effects, as stimulation is applied to the skin by rubbing. Its immediate effect is strong,

its effect lasts, and the amount of drugs taken can be reduced.

The rubbing acupuncture method is thought to be a procedure that is capable of improving such psychological symptoms as anxiety, restlessness, depression and low motivation, as well as of delivering the joy of living, realizing the lifestyle that is actively desired by the patient, and increasing QOL.

Reference

- 1 Maruyama K, Shimoju R, Ohkubo M, Maruyama H, Kurosawa M. Tactile skin stimulation increases dopamine release in the nucleus accumbens in rats. *J Physiol Sci.* 2012; 62(3): 259-266.

Clinical Report 2 (Kampo Medicine)

A Case in which the Administration of Multiple Kampo Drugs Improved the Symptoms of ASD and ADHD in a 15-year-old Boy

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Introduction

Children encounter various issues and environmental changes at each stage of their growth. Most children overcome these issues and changes as they grow up, but some are unable to fully cope with them, and may fall into a state of mental disorientation. Kampo therapy is effective as a pharmacotherapy for such cases.

Case: 15-year-old boy with an autistic spectrum disorder (ASD) and attention deficit hyperactivity disorder (ADHD)
Chief complaint: Agitation and panic about taking the entrance examination

History of present illness: At the age of six, the patient was diagnosed with Asperger's syndrome at a specialized institution. From around the age of ten, he began to exhibit marked impulsiveness and inattentiveness, so he was put on methylphenidate. Thereafter, the patient adapted to regular classes for general students, and did well. However, from around November in his third year in junior high school, before the entrance examination season, he began to become agitated and restless, and would frequently clear his throat. In December, he had episodes of panic about taking trial examinations, to the point that his daily life was disrupted. As it was unpreferable to increase the dosage of methylphenidate, Kampo therapy was attempted.

Interview and findings: The patient was agitated by worries about the entrance examination, and complained of feeling that something was caught in his throat. Tip of tongue: red. Pulse: sunken and thin. Abdomen: nothing in particular.

Treatment and course:

Category 1 (heart and liver blood deficiency), category 2 (qi accumulation and counterflow), and category 3 (upward flaming of heart fire) were thought to apply, so the following prescription was administered.

Tsumura *orengedokuto* extract 5g (twice/day)

Tsumura *hangekobokuto* extract 5g (twice/day)

Tsumura Kanbakudaisoto extract 5g (single use at times of anxiety)

The patient clearly began to calm down after taking the prescription, and his respiratory symptoms also abated. The single-use drug for times of anxiety was also effective.

In March, the patient took the entrance examination and got into his first-choice school. At his request, he continued to take the above prescription in addition to Concerta even after entering high school, but the Kampo drugs were terminated after a month.

Observation:

Children with ASD lack sufficient reality processing capacity, so their symptoms may be exacerbated by environmental changes. In this case, the patient had been nervous about the coming examination, so the most appropriate prescription was selected from among category 1, 2 and 3 drugs, to allow the patient to cope with the examination.

Reference:

Categories of states of the heart in traditional medicine and corresponding prescriptions

Category 1 (mainly weakness of the heart, heart blood deficiency, liver qi deficiency)

Anxiousness, insecurity, sadness, fear (timidity), etc.

In particular, depressive and passive feelings continue for a prolonged period.

Prescription: *kanbakutaisoto*, *kamikihito*, *keishikaryukotsuboreito*, etc.

Category 2 (mainly liver depression qi stagnation)

Depression, insecurity, anxiousness, hysterics, etc.

Physical tension is strong, and moods tend to readily change.

Prescription: *shigyakusan*, *saibokuto*, etc.

Category 3 (mainly hyperactivity of heart fire, upward flaming of liver fire, gallbladder stagnation with disturbance from phlegm)

Anxiousness, short temper, restlessness, impatience, etc.

In particular, agitated symptoms tend to continue for a prolonged period.

Prescription: *yokukansan*, *yokukansankachinpihange*, *orengedokuto*, *daisaikotokyodaio*, etc.



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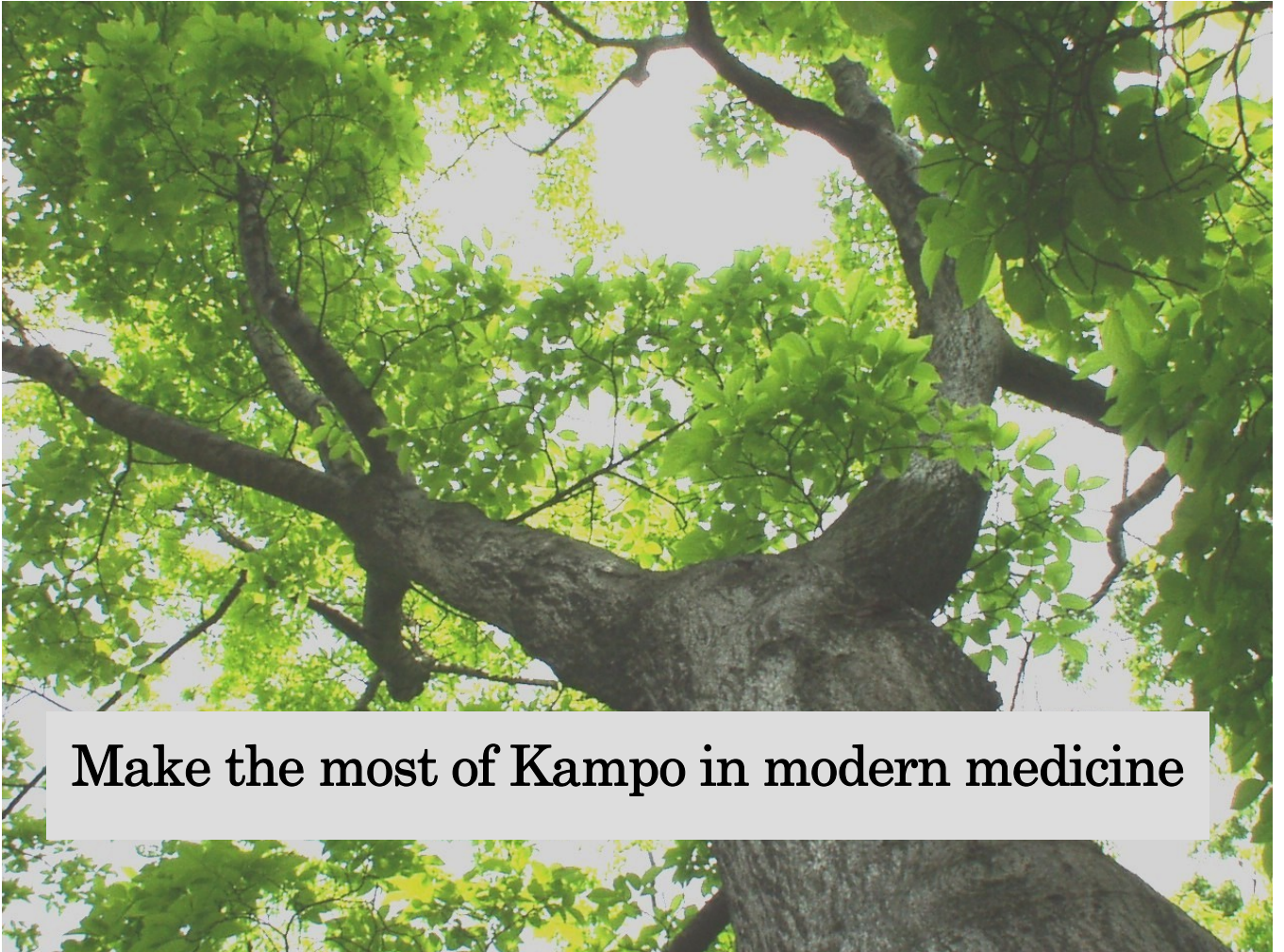
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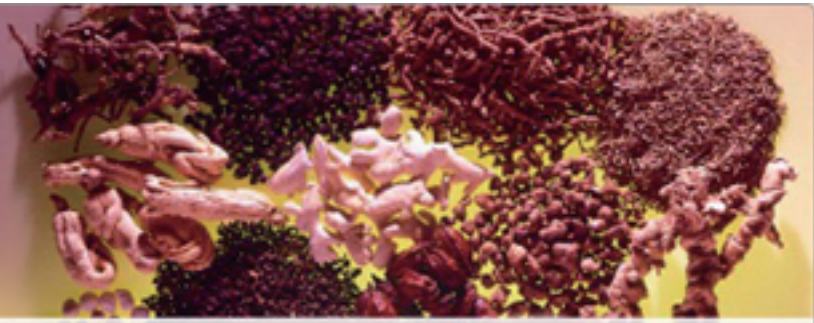
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