Japanese Acupuncture - Current Research

Japanese Traditional Medicine Text (19) – Geriatric Department

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A. The Geriatric Situation and Elderly Medical Care in Japan

The population aging rate (percentage of the population over the age of 65) in Japan has been increasing, such that in 2007, the aging rate exceeded 21% and Japan became a super-aging society. By 2055, the aging rate is estimated to reach 40.5%, with one in every 2.5 people a senior citizen[1].

One of the characteristics of diseases developed among the elderly is the simultaneous disorder of multiple organs, or multiple organ failure. Elderly people have diminished internal organ functions, such as the liver and kidney, so even drug doses that are normally administered to adults take time to metabolize and discharged, and frequently produce overly strong effects and side effects. It is not uncommon for elderly people to be prescribed many different types of internal medicine from a multiple number of clinical departments. Conditions such as falls, stupor, memory loss, incontinence, bedriddenness, malnutrition, and iatrogenic disorder are often observed among the elderly. Called geriatric syndrome, these conditions simultaneously affect multiple organs, but differs from organ diseases that are seen in people who are not yet in old age, in that prolonged bed rest in the hospital becomes a cause of disuse syndrome. To provide medical care for elderly people with such characteristics, the Comprehensive Geriatric Assessment (CGA) was developed in England as a multidimensional method of assessing various functions in elderly people. CGA includes an assessment of the activities of daily living (ADL), the Mini Mental State Examination (MMSE) and the Geriatric Depression Scale (GDS) as measures of mental functions, and assessments of patients' family, residence, and economic status. It has been reported that people who have undergone CGA display lower mortality rates, higher survival rates in the home, improved ADL, and greater cognitive function compared to people who have not undergone CGA[2]. Before today's aging society, emphasis was placed on providing life-prolonging treatment to keep patients alive, but in an aging society, it is important to provide medical care that not simply allows patients to live longer, but that allows patients to live in good health by placing importance on healthy life expectancy and QOL. Medical care that is vertically divided by type of organ is not suited to treating elderly people. Medical care for the elderly is an area that could benefit from traditional medicine, which treats patients by examining their entire being. The concept of CGA is also in a way similar to that of traditional medicine. Patient-driven team medicine based on such comprehensive assessment is indispensable to medical care for the elderly. However, in Japan, the medical world still offers only a limited field of activities to acupuncturists. It is thus necessary to create more opportunities where acupuncturists can be active in the same way as physicians, nurses, physical therapists, occupational therapists, nutritionists, pharmacists, and social workers.

B. Acupuncture and Moxibustion Therapy for Elderly Medical Care

Symptoms that are commonly seen among the elderly could be easily explained as stemming from decreased kidney function, in many cases. Kidney yang warms the organs and tissues, and deficiency of kidney yang produces symptoms of coldness. Decreased kidney function leads to a decrease in bone marrow, heaviness and unsteadiness of the lower back and knees, and eventually gait disorder. Urination and defecation cannot be controlled, and hearing is impaired.

There was a case in which an 80-year-old woman

was wheelchaired to the hospital. Her family requested to purchase a wheelchair, as she has difficulty walking. The patient was sensitive to the cold, and developed coldness particularly in her lower body. She was bent, had weak legs and a weak back, and was hard of hearing. She had nocturia and tended to produce loose stool. Mentally, she had a feeling of fatigue. Her pulse was sunken and slow, and her tongue was pink. These symptoms all disappeared with a moxa needle to the bladder meridian and kidney meridian and a salt moxa to the navel, and the patient recovered to the point where she could go into the mountains alone to pick wild edible plants and answer the phone for the first time in twenty years. The patient had a typical case of kidney yang deficiency, and the various symptoms that extended into diverse areas, including the locomotive organs, urinary organs, ear and throat, and mental condition, all improved by simple acupuncture and moxibustion therapy. By examining clinical patterns called *Sho*, and applying treatment suited to the *Sho* in question, this case showed that the symptoms of even multiple organ failure as defined by Western medicine could be improved all at once. The case can also be said to show the usefulness of recognizing patterns from a perspective that differs from Western medicine.

It is also worthy of mention that while medical care by orthodox medicine is invasive in many cases, acupuncture and moxibustion therapy causes little health damage. It applies physical stimulation to the body surface, and provides treatment without the addition of internal medicine. This is a large advantage that even Kampo therapy does not offer, although they both fall under the same traditional medicine category.

Acupuncture and moxibustion therapy could benefit elderly medical care in many areas. For example, it can be used against cancer, cerebrovascular diseases, and pneumonia, which are the top causes of death. It can also be used to relieve the pain caused by cancer, or to supplement rehabilitation for patients coping with the after-effects of a cerebrovascular disease. The list can go on and on. Some case data are presented below.

1. Chronic pain

A common complaint among the elderly is chronic pain, mainly in the lower back and knees. Large-scale studies have been conducted in Germany regarding this.

Brinkhaus et al. examined the effects of acupuncture therapy in 298 patients with chronic lower back pain with an average age of 59±9. The patients were divided into three groups. One group was treated by Chinese acupuncture therapy. Another group was administered minimal acupuncture, which involves the shallow insertion of acupuncture needles in non-acupuncture points. The third group composed a waiting list, and was not given acupuncture therapy. Acupuncture therapy and minimal acupuncture were administered twelve times over a period of eight weeks. The degree of lower back pain was evaluated according to the Visual Analog Scale (VAS; 0 – 100mm). The VAS showed an improvement of 28.7±30.3mm for the acupuncture therapy group, 23.6±31.0mm for the minimal acupuncture group, and 6.9±22.0mm in the waiting list group. The difference in improvement between the acupuncture therapy group and minimal acupuncture group was 5.1mm and not a significant difference, but the difference between the acupuncture therapy group and waiting list group was a significant difference of 21.7mm. In the 26th and 52nd weeks, no significant difference in pain was observed between the acupuncture therapy group and minimal acupuncture group[3].

Witt et al. examined the effects of acupuncture therapy in 300 patients of chronic osteoarthritis of the knee of Kellgren grade 2 and lower. 150 patients were treated by Chinese acupuncture therapy, 76 were administered the abovementioned minimal acupuncture to non-acupuncture points, and the remaining 74 composed a waiting list. Acupuncture

therapy and minimal acupuncture were administered 12 times over a period of eight weeks. The WOMAC index adjusted for baseline score was used to judge the effects. In the eighth week, the acupuncture therapy group scored 26.9, the minimal acupuncture group 35.8, and the waiting list group 49.6, and a significant improvement was observed in the acupuncture therapy group compared to the other two groups. In the 52nd week, no significant difference was observed between the acupuncture therapy group and minimal acupuncture group[4].

2. Dysphagia and aspiration pneumonia

Pneumonia is the fourth highest cause of death in Japan, and more than 90% of pneumonia victims are elderly people ages 65 and above. A salient characteristic of pneumonia among the elderly is aspiration pneumonia. Swallowing and coughing reflexes are defense mechanisms we all have, and protect our lungs from aspiration. A major cause of pneumonia among the elderly is diminished swallowing and coughing reflexes caused by a cerebrovascular disease of the basal ganglia[5]. Basal ganglia cerebrovascular diseases reduce the amount of dopamine that is produced in the nigrostriatal pathway, and this reduces the amount of substance P (SP) that is released from the sensory branch of the vagus nerve to the membranes in the pharynx and trachea. As SP is an important trigger for the swallowing and coughing reflexes, a decrease in SP causes those reflexes to decline[6]. In cases of diminished swallowing reflex, aspiration occurs unawares (silent aspiration), and saliva and intraoral bacteria get into the lungs.

In China, acupuncture and moxibustion therapy has long been used for treatment of the after-effects of cerebrovascular diseases and dysphagia.

In some cases, patients with dysphagia cannot be given drug treatment that requires oral administration because of their swallowing disorder. Such patients require a new type of treatment to improve their swallowing reflex without depending on oral drug administration.

Seki et al. administered acupuncture treatment to the stomach meridian and kidney meridian in patients of cerebrovascular diseases who have a past history of aspiration, and reported an improvement in the swallowing reflex and a significant decrease in aspiration and pharyngeal residue according to videofluorography[7, 8]. An improvement in swallowing reflex was also observed when applying electrical stimulus to the same acupuncture points with a skin surface electrode[9].

3. Visual impairment

Glaucoma is the number one cause of adventitious blindness in Japan. There are an estimated 4 million patients, but the number is expected to increase with age. As visual impairment is a cause of falls, it can be said to be a disorder that cannot be overlooked from the perspective of preventing falls. Kurusu et al. administered acupuncture therapy to glaucoma patients, and reported a lowering of intraocular pressure and improved vision[10].

C. Prospects

Meta-analyses and systematic reviews have been made, but the following issues exist.

1) There are few clinical trials of acupuncture therapy
2) There are few trial subjects
3) Protocols are insufficient

The greatest reason why protocols are insufficient is the difficult in establishing a control group. Placebo acupuncture therapy is extremely difficult, and so are double blind trials. For this reason, many clinical studies cannot be said to accurately assess acupuncture and moxibustion therapy.

In addition to these issues, there are the following issues in the medical field and education in Japan. One is the small numbers of clinical trials and trial subjects. Because there are hardly any

acupuncturists in medical institutions, it is difficult to find subjects for clinical trials when they are needed. Another is that since acupuncture and moxibustion therapy requires manpower, it is not easy to increase the number of subjects or to extend the follow-up period even when a large-scale clinical study is attempted.

As mentioned earlier, elderly people are weaker than young people. Therefore, elderly medical care requires due care and attention especially when moving patients. However, as it is believed that acupuncture and moxibustion therapy offers vast possibilities in elderly medical care, high expectations shall be placed on future studies.

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