Acupuncture and Moxibustion Treatment for Chronic Fatigue Syndrome

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Keywords: fatigue, chronic fatigue syndrome, overwork, malaise, anti-fatigue food, biological oxidation, oriental medicine, acupuncture and moxibustion

Fatigue is a symptom such as a daily feeling of being unmotivated, sluggish, tired, sleepy, and irritable. In recent years, there has been an increase in unexplained and severe fatigue. Severe cases are called chronic fatigue syndrome, in which the patient may be nearly bedridden. University hospitals and large hospitals have begun to establish outpatient services for fatigue. Acupuncture and moxibustion clinics offer acupuncture and moxibustion treatment for recovery from fatigue and the treatment of chronic fatigue syndrome. Patients are also beginning to feel the effects of acupuncture and moxibustion treatment.

Fatigue is defined by the Japan Fatigue Society as follows. Fatigue is a state of diminished capacity of the body for activity accompanied by a distinctive feeling of discomfort and a desire to rest, caused by excessive physical and mental activity or by illness. Fatigue is distinguished between fatigue and sense of fatigue. Fatigue is a reduction in the capacity for activity caused by an overload on the body and mind. Sense of fatigue is the sensation of being aware of the presence of fatigue. In most cases, discomfort and decreased motivation for activity are present on the sense of fatigue. When fatigue persists for more than 6 months, it is called chronic fatigue. Chronic fatigue patients account for nearly 40% of the population. The cause of chronic fatigue is overwork in 42%, but the cause is unknown in 38%. Among those aged 50 and under, the rate of mental fatigue is high, reaching about 68%. The rate of mental fatigue is 5 to 10 percentage points higher than that of physical fatigue. Among those aged 50 and older, the rate of physical fatigue is 65%. The rate of physical fatigue is about 20 percentage points higher than that of mental fatigue [2].

The results of the classification of the mental state of workers from the psychosomatic aspect show that workers are fatigued [3]. In terms of the number of telephone consultations on workers' mental health, depressed mood was the most common psychological symptom with 317 cases, followed by anxiety, agitation, and nervousness. On the social side, human relations accounted for 217 cases, followed by employment problems, work

environment, and quality of work. On the physical side, sleep disturbance was reported in 151 cases, followed by sense of fatigue, anorexia and overeating. Fatigue and the death from overwork are considered to be closely related. According to the manual of the Ministry of Health, Labor, and Welfare, the death from overwork is defined as a condition in which excessive workload triggers the deterioration of underlying diseases such as hypertension and arteriosclerosis, cerebrovascular disease, ischemic heart disease, or acute heart failure, resulting in permanent inability to work or death. Overwork suicide generally refers to suicides resulting from mental and physical exhaustion due to long hours of work. Overwork suicide as well as the death from overwork is highly related to fatigue. The high incidence of overwork suicide, especially among young people, is also a problem. Malaise, a symptom of fatigue, is the second leading complaint in primary care. A variety of illnesses can cause malaise, but little progress has been made in addressing malaise. Improvement of fatigue and malaise is very important because resolution of malaise leads to improvement of the current disease.

There is little serious research on mechanisms related to the generation of fatigue, etc. Clinical research on fatigue has made it possible to measure fatigue levels and establish criteria for anti-fatigue foods and drugs. The use of fatigue and chronic fatigue biomarkers has revealed that the immune system is involved. The mechanism by which the relation between fatigue and the brain has also become clear [4]. Treatments for chronic fatigue syndrome have been developed, and it is now possible to differentiate between chronic fatigue and myalgic encephalomyelitis. The mechanism of chronic fatigue is that ATP is not produce enough even if cells, tissues, and the brain overworked. Biological oxidation is involved, resilience is reduced, and immune cells generate small inflammation. It is also cleared that lactate is not a fatigue-causing agent, but that lactate ameliorates fatigue. Anti-fatigue products inhibit oxygen-related metabolite increases [5]. PET (Positron Emission Tomography) studies of dietary intake and kinetic observations have revealed the effects of anti-fatigue products. For example, coenzymes produce ATP. Imidapeptide is most effective in clinical trials. Highly concentrated hydrogen water reduces body fat and visceral fat. Stress brain function effects of Japanese food have been studied [6]. It is intended to be consumed by food alone, not medicine. The anti-fatigue healing market is expected to be a large market.

Fatigue is also gaining attention in the acupuncture and moxibustion business. An increasing number of acupuncturists are also paying attention to fatigue. The number of patients in outpatient service for fatigue is continuously increasing. Patients are beginning to feel that they are less tired with acupuncture and moxibustion treatment [7]. Subjective and objective evaluation of fatigue before and after acupuncture treatment reported a decrease in fatigue level in both cases [8-10]. The results of the oriental medical evaluation using the dialectic score showed that the dialectic score for qi deficiency was the highest before acupuncture treatment, but after acupuncture treatment, the qi deficiency score was re-

duced to the same level as the other scores. The most effective acupuncture points reported in traditional Chinese medicine were ST36, SP6, GV20, CV4 and BL23, etc.

In discussion of fatigue treatment, the application of acupuncture and moxibustion to chronic fatigue syndrome must be clarify. There have been few studies on acupuncture and moxibustion treatment for fatigue, even if nearly 40% of the Japanese population has chronic fatigue that persists for more than 6 months. Fatigue exists at the extension of various stresses in daily life, and is considered to be pre-symptomatic state in Oriental medicine. Since acupuncture and moxibustion treatment can treat pre-symptomatic state, the application of acupuncture and moxibustion treatment to fatigue is considered effective. One of the typical symptom of fatigue is general malaise. Acupuncture and moxibustion treatment is effective for physical fatigue such as malaise. Furthermore, acupuncture and moxibustion treatment is effective for mental fatigue as well, since it is also effective for indefinite complaints. Acupuncture is also effective in improving sleep disorders. One of the symptoms of fatigue is depressive state. Depressive state produces sleep disorders, and it has been shown that sleep disorders may create depressive state. Acupuncture and moxibustion treatment can improve sleep disorders and depressive state, which in turn can improve fatigue.

The mechanism of the onset of chronic fatigue is as follows. Feeling stress and thinking about something seriously reduce the function of the parasympathetic nervous system, resulting in poor sleep quality and the development of chronic fatigue. Acupuncture and moxibustion treatment can approach the parasympathetic nervous system, thus activating the parasympathetic nervous system. Prevention of chronic fatigue involves avoiding the accumulation of fatigue. Methods to avoid the accumulation of fatigue include good sleep, a nutritious diet, and relaxation of the body and mind. Mental fatigue is difficult to alleviate with external stimulation, but acupuncture and moxibustion, which do not cause pain, can help to dominate the parasympathetic nervous system. Acupuncture and moxibustion treatment is expected to reduce physical fatigue as well as mental fatigue.

The balance between sympathetic and parasympathetic nervous systems is important, even if research has often focused on the parasympathetic nervous system only. Sympathetic and parasympathetic centers are mixed. For example, in the anterior cingulate gyrus and preoptic area, sympathetic and parasympathetic blocks are intermingled, and their proximity affects the balance of function. Further clarification of the function of the balance between sympathetic and parasympathetic nervous systems would clarify the effects of acupuncture and moxibustion treatment. Research such as f-MRI (functional magnetic resonance imaging) examinations before and after acupuncture and moxibustion treatment will also be important.

The key in acupuncture and moxibustion treatment of chronic fatigue is that chronic fatigue can progress not only to

depression but also to the death from overwork or overwork suicide. In the acupuncture treatment interview, the degree of accumulation of fatigue should be periodically ascertained and used as a criterion for acupuncture treatment. In periodic health checkups of workers, VDT caused by excessive computer screen watching and metabolic syndrome are diagnosed. It is desirable to establish a simple and appropriate diagnostic method for fatigue.

Chronic fatigue occurs more frequently in younger patients. In patients with dementia, there is the issue of lack of realization of the effects of treatment by the patients themselves, but in the case of younger patients, it is possible to ascertain the effects of treatment. If the effects of acupuncture and moxibustion treatment become clear, there will be an incentive to heal themselves quickly, and acupuncture and moxibustion treatment may spread to younger patients as well. Presenting the effects of acupuncture and moxibustion treatment on fatigue, a disease that is on the rise among younger people, will be of great significance in solving a social problem.

In the future, the mechanism of fatigue reduction by acupuncture treatment needs to be further clarified. It is also necessary to clarify the acupuncture points and techniques that are highly effective based on the evaluation index of fatigue. Since most of the reports that exist today were conducted in China, the clarification of the acupuncture points that are effective for Japanese people is necessary. Moxibustion therapy is highly effective in relaxing the body and mind. The effect of moxibustion treatment on recovery from chronic fatigue also needs to be clarified. Research on fatigue recovery by moxibustion treatment targeting Japanese people is awaited, because moxibustion has evolved uniquely in Japan.

In summary, nearly 40% of the Japanese population has chronic fatigue in which fatigue persists for more than 6 months. Fatigue and malaise are the second leading chief complaint in primary care. Research on fatigue has established standards for anti-fatigue foods and drugs. Biological oxidation is related to fatigue. Fatigue reduces the body's ability to repair tissues and causes that immune cells produce small inflammation. Biomarkers of chronic fatigue have revealed the mechanism of the involvement of the immune system and the fatigue involving the brain. Subjective and objective assessments of fatigue before and after acupuncture treatment showed a decrease in fatigue in both cases. In the oriental medicine evaluation, the qi deficiency score was reduced to the same extent as other scores after acupuncture treatment. The most effective acupuncture points were reported to be ST36, SP6, GV20, CV4 and BL23.

Fatigue exists at the extension of various stresses in daily life and is positioned as pre-symptomatic state in Oriental medicine. Since acupuncture and moxibustion treatment can treat pre-symptomatic state, the application of acupuncture and moxibustion treatment to fatigue is considered effective. Acupuncture and moxibustion treatment is effective for general malaise, which is a typical symptom of fatigue. Acupuncture and moxibus-

tion treatment is effective not only for physical fatigue, but also for indefinite complaints and sleep disorders, and is highly effective for mental fatigue. Stress reduces the parasympathetic nervous system function, results in poor sleep quality and generates chronic fatigue syndrome. Acupuncture and moxibustion treatment can approach chronic fatigue syndrome by stimulating the parasympathetic nervous system function. In the future, it is desirable to develop a simple and accurate method of examining fatigue, to penetrate acupuncture and moxibustion treatment to younger patients, to clarify the mechanism of fatigue reduction by acupuncture and moxibustion treatment, to clarify acupuncture points and techniques with high efficacy, and to clarify the effects of moxibustion treatment.

[1] Yasuyoshi Watanabe et al., Supplementary volume History of medicine Latest science of Fatigue, pp.7, 2010.

[2] Takeo Tanihata, Comprehensive Clinical, vol.55, No.1, 2006.

[3] Rieko Ota et al., Japanese journal of occupational medicine and traumatology, vol.52, pp.315, 2004.

[4] Masayasu Inoue, The Science of Fatigue, Kodansha, 2001.

[5] Yasuyoshi Watanabe, Japan College Association of Oriental Medicine 37th Annual Conference, 2015.

[6] Yasuyoshi Watanabe et al., Anti-Fatigue Food, Maruzen Office L, 2011.

[7] Tasuku Yamazaki, Meiyuukai Workshop of Meiji school of oriental medicine, 2014.

[8] Tasuku Yamazaki et al., Journal of Japan Mibyou System Association, vol.15, pp.186, 2009.

[9] Tasuku Yamazaki et al., Journal of the Japan Society of Acupuncture and Moxibustion, vol.60, pp.497, 2010.

[10] Tasuku Yamazaki et al. Journal of Japan Mibyou System Association, vol. 22, pp. 8, 2016.

(Received 5 December 2016)

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