

Lymph-Accupoint Oriented Heating Therapy, Improve Performance Status of Capillary Conditions

Kawasaki Keiko¹, Takeno Dan¹ and Yamaguchi Nobuo^{1,2*}

¹Ishikawa Natural Medicinal Products Research Center, Ishikawa, Japan

²Department of Fundamental Research for CAM, Faculty of Medicine, Kanazawa Medical University, Uchinada, Ishikawa, Japan

***Corresponding Author:** Yamaguchi Nobuo, Ishikawa Natural Medicinal Products Research Center, Ishikawa, and Department of Fundamental Research for CAM, Faculty of Medicine, Kanazawa Medical University, Uchinada, Ishikawa, Japan.

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Abstract

Context: Reduction in performance status of skin is one of the serious factors determining the prognosis of postmenopausal ladies. The purpose of this study was to investigate whether lymph-acupoint oriented heating therapy (LAHT), Ito Terumie therapy could improve the performance status of postmenopausal skin condition, inspecting capillary condition especially finger-tip of ring finger as an indicator.

Methods: Volunteers were randomly selected according to the Ethic Committee of Kanazawa Medical University. The LAHT was started on the day of written informed consented and the appetite, body weight and physical performance status of skin conditions were observed. The volunteers were inspected on one week after, and cosmetic factors of the skin including regeneration of peripheral capillary scope by innovative capillary scope for inspection system of the ring finger.

Results: LAHT could improve the performance status of volunteer ($p < 0.05$). LAHT could increase the regeneration of the capillary of nail stem. An increase was observed in the capillary regeneration in the group after one week. Another blood cell and biochemical data were sifted to appropriate level regarding life related disease.

Conclusions: LAHT, especially via derma, could significantly improve the performance status of skin condition especially capillary regeneration.

Keywords: Heel; Wrinkle; Gray Line; Water Retention Rate; Freckles; Nail Stem; Peripheral Capillary; Ghost Capillary

Introduction

Every developed countries had explored long-lived persons as to advance in medical science and medical care, medical insurance lot of death are vascular accident due to life-related diseases. In order to avoid the economic balance and people desire, the requirement is growing more and more attention to make desirable political balance to CAM issue System [1,2]. Thus, it is particularly important to determine the prognosis of post menopausal lady and their treatment efficacy and evaluation standard for each constitution [3,4]. In prognosis and efficacy determinations, the evaluation of the performance status is very important. A poor performance status suggests a poor prognosis and worse efficacy and implies that patients will lose many chances for active treatment. If the performance status of patients can be improved using active methods. It might be possible to increase treatment efficacy, improve prognosis, and prolong survival periods [5,6].

However, modern medicine does not have particularly effective measures to improve performance status. Very few articles have considered that nutrition interventions could improve the performance status of patients from the nutritional perspective [7,8].

Therefore, this report was intended to design for evaluate digitally so called physical treatment, thermal therapy to life related indefinite complain. Modern studies also confirm that LAHT can improve chronic fatigue syndrome and life-related fatigue (LRF). Therefore, we speculated that LAHT might be able to improve the performance status of elderly patients.

Materials and Methods

Ito thermie therapy

Ito Thermie Therapy is one kind of physical therapy gentle heat stimulation, established by Dr Ito K. in 1929. LAHT effect on nervous, circulatory, endocrine and immune system. Dr Ito confirmed the spiritual upset of the volunteer/patients also.

Technical procedures

In this study, acupoint oriented heating therapy, Ito Thermie Therapy was tested for the peripheral tissue rearrangement, especially for finger captor and inner tubes. The stick were prepared usually two sticks (Figure 1). The thermos sticks were supported by several herbs inorganic with nutritional substances. During the therapy, sticks glow gently to move relaxing and with aroma (Figure 2). The heating stick keeping temp about 7°C were traced along with acupuncture oriented lymph routes on the naked skin. The volunteer was treated about 30~60 minutes depend on the stress condition, in each coule of the therapy.

The heating device was produced by stainless steel that was composed with two major parts one for holding parts and on other was heat-generation parts, heating generator and grasp part on the line as separated. The heating generator was compose with cotton with dried herbal material, moxa. The heating generator was prepared and effected as generator for half an hour which one coule of LAHT was required. The surface temperature of the device was around 7°C, where the low temp The surface temperature of the device was around 7°C, where the low temp scald may not avoided as several minutes of stay on the same surface of the naked skin (Figure 1 and 2).

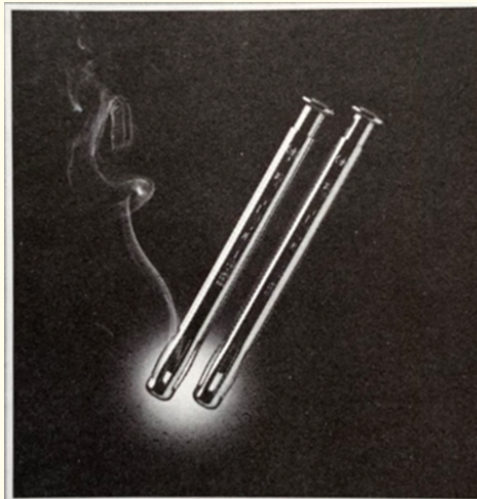


Figure 1: The outlook of therumie heating stick.

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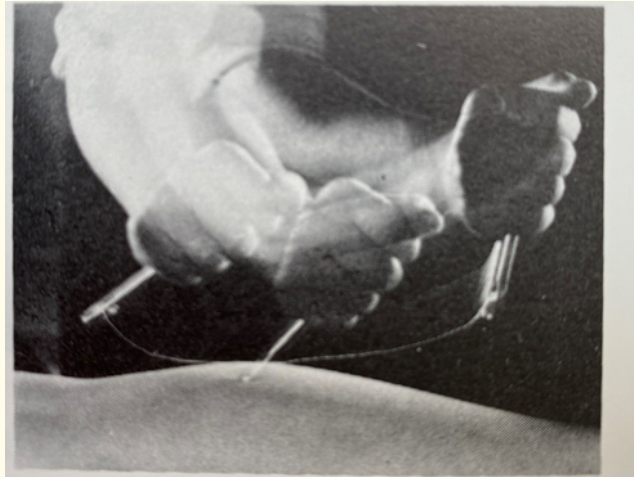


Figure 2: The handling of heating stick by slow video style.

One of typical treat movement by Therumie heating stick, the movement was need to special technic left enough of heat but without heating damage of the outer skin. The picture was prepared by slow motion technic.

Volunteer and methods

Study design

A randomized semi-clinical trial was conducted to assess the capillary length and in age related value. All participants underwent informed and consented according to the Ethics Committee of Kanazawa Medical University.

Participants

Ten volunteers were recruited from normal healthy condition. They were written informed and consented according to the Ethics Committee for University Hospital screened by questionnaire and interview. Eligible participants were working adults between the ages both of female and male volunteers.

Detecting machine

We prepared special detecting machine for dynamic flow of red blood cell in capillary in nail stem, Capillary scope SC-10 (At Co, Ltd. Osaka, Japan).

The ring fingertip of left hand was set up this apparatus after pasting vegetable oil. In this trial, the dynamic flow of red blood cell as well as static size of capillary were digitally recorded as a scale of cosmetic condition of the skin [7,8].

Capillary analysis

Together with providing information on capillary length and twists, capillary analysis checks for disturbances in your lifestyle as well as the circumstances behind general malaise, thereby identifying any abnormalities in one's capillary. The capillary scope was a type of equipment that can digitally observe capillary blood flow without subcutaneous injection. The check point of this apparatus were aimed as followed in,

Five main check points of assessments were:

- Static image of capillaries in nail stem
- Remodeling of capillaries
- Diameter of capillaries
- Follow up number of ghost capillary
- Dynamics of blood cell flow.

Checking of capillary by this device. Images and video can be prepared simultaneously non-invasive style. Detailed patient information (name, age, sex, opinions, comments, etc.) can be interviewed afterwards, and can be confirmed during subsequent measurements [5-8] (Figure 3 and 4).

Evaluation factors

In order to evaluate this heating system, LAHT, peripheral capillaries were picked up by the Capillary scope, Kekkann Bijin, SC-10, (At Co Ltd., Osaka, Japan).

Method for evaluation of the performance status

Capillaries are a special type of blood vessel that supply the nutrition and oxygen we regularly delivered throughout the entire body while also collecting wasting products of all the organ there capillary system generated. These information of capillaries represent an amazing, massive ecosystem inside of the body and account for 95% of your blood vessels (with a length that could span the entire earth roughly two times). In the same way as the heart, our capillaries effect and develop the end side/even in the surface of the organ system as a core for vital activities.

Capillary analysis

Together with an image information on capillary length and twists, capillary analysis checks for disturbances in one's lifestyle as well as the circumstances I, thereby identifying any abnormalities in the capillaries. It provides that such abnormalities can help identify minute changes within your body. In the book Clinical and Capillaries, as well as in medical techniques such as ophthalmoscopy, capillaries are used as an indicator for diagnosing lifestyle related diseases through capillary scope [9,10].

The judging factors were listed in table 1.

Statistical analysis

Data processing was performed using SPSS Statistics version 19.0 (IBM, Armonk, USA). Measurement data are expressed as the means \pm standard deviations ($\bar{x} \pm s$). The comparison between two groups was performed using the least significant difference (LSD) test. $P < 0.05$ indicated that the difference was statistically significant, and $P < 0.01$ indicated that the difference was very statistically significant.

Results

Effects of LAHT treatment on the peripheral capillary

In order to show the cumulative step of LAHT, the three steps were shown by the special capillary imaging devise in figure 1 and 3. The first was the before starting therapy, next was just after the LAHT and the final was one hour after the therapy.

	G-type individual BYT		L-type individual STD	
	Before	After	Before	After
Total WBC (x 10 ³ μl)	6.85	5.78	3.83	5.03
Lymphocyte (%)	23.1	26.9	43.3	38.1
Granulocyte (%)	69.9	64.4	50.6	56.8
Neutrophil (%)	65.8	61.7	45.3	51.0
Eosinophil (a/o)	1.7	2.8	2.5	4.6
Basophil (%)	0.8	0.6	0.8	0.9

Table 1

Figure 3 showed the picture before the therapy, showing many of ghost capillary were seen.



Figure 3: Digital recording for static and dynamic images.

In order to show the cumulative step of LAHT, the three steps were shown by the special capillary imaging devise. The first was the before starting therapy, next was just after the LAHT and the final was one hour after the therapy.

Effects of LAHT on peripheral capillary, after the therapy

This picture was shown the indicator capillary after the LAHT, catching lot of activated capillary end, U turning the end of capillary. But the stem part of capillary still unclear semi ghost one.



Figure 4: Preparative style of check point on finger.

We prepared special detecting machine for dynamic flow of red blood cell in capillary in nail stem, Capillary scope SC-10 (At Co, Ltd. Osaka, Japan). The ring fingertip of left hand was set up this apparatus after pasting vegetable oil.

Effects of LAHT treatment on ring finger capillary

The picture show the one hour after the LAHT. showing stoke part were more clear. This picture was shown the indicator capillary after the LAHT, catching lot of activated capillary end, U turning the end of capillary. But the stem part of capillary still unclear semi ghost one.



Figure 5: This was the picture before the LAHT, catching lot of capillary end. The end of capillaries were unclear, indicating so so-called ghost capillaries. The stem part of capillary unclear.



Figure 6: This was the picture after the LAHT, catching lot of capillary end, U turning the end of capillary. But the stem part of capillary still unclear semi ghost one.



Figure 7: The picture show the one hour after the LAHT. Showing stoke part were more clear.

Total assessment of LAHT treatment through ring finger capillary

Together with an image information on capillary length and twists, capillary analysis checks for disturbances in one's lifestyle as well as the circumstances, thereby identifying any abnormalities in the capillaries. It provides that such abnormalities can help identify minute

changes within your body. In the book *Clinical and Capillaries*, as well as in medical techniques such as ophthalmoscopy, capillaries are used as an indicator for diagnosing lifestyle related diseases through capillary scope.

Discussion

Although poor physical performance suggests poor prognosis and lack of efficacy, there are few reports exploring how to improve the performance status. A few articles considered that nutrition interventions could improve the performance status of patients from the nutritional perspective. However, overall treatment methods that can actively and effectively improve the performance status of cancer patients are still lacking [11-19].

Our study showed that LAHT could significantly improve the performance status of tumor-bearing mice using either scarring or moxa stick. The improvement in physical performance by moxa stick LAHT was even more significant than that by scarring LAHT. Currently, there is no study on the improvement of the performance status of tumor-bearing patient; however, there are similar reports of non-cancer studies. In the treatment of chronic fatigue syndrome, the combined use of acupuncture or LAHT had better effects than western medicine. The report of Akazawa showed that lit-moxa stimulation could significantly prolong the swimming time to exhaustion of patient [3]. Yamaguchi, *et al.* showed that although LAHT did not improve the swimming time to exhaustion of mice in the first 2 weeks, significant effects were observed in the 3rd week.

The mechanism underlying the reduction in the performance status is currently not very clear. It has been reported that the reduction in the performance status is associated with emotional distress, LINE-1 methylation, a low score for "Confrontation", low hemoglobin levels, low daily calorie intake levels, loss of weight, poor nutritional status and hyponatremia. However, these factors and the reduction in the performance status are only correlated and do not have a causal relationship. Therefore, the mechanisms underlying the reduction in the performance status are still not clear.

However, as we all know, the reduction in the performance status of cancer patients is often overlapped with cancer cachexia and CRF in many conditions. That is, cancer cachexia and CRF are always accompanied by reductions in physical performance, and physical performance may be the presentation of cancer cachexia and CRF; therefore, the investigation of the mechanism of this reduction can refer to cancer cachexia and CRF. Pro-inflammatory factors, such as IL-1, IL-6, and TNF- α cytokines, might induce CRF. The major clinical presentations of cachexia, decreased intake and increased nutrient consumption, were also associated with the involvement of cytokines, such as tumor necrosis factor- α (TNF- α) and interleukins (IL-1 and IL-6). Therefore, we hypothesized that the reduction in the performance status of cancer patients might be associated with the regulation of the above cytokines [20-25].

Although there is currently no report on the regulation of the above cytokines by LAHT in cancer patients, it has been shown that LAHT could inhibit TNF- α , IL-1, and IL-6 mRNA expression in some inflammatory diseases, such as herpes simplex virus in the skin and ulcerative colitis.

In summary, we speculated that one of the mechanisms underlying the improvement in the physical performance of tumor-bearing mice by LAHT was the reductions in serum levels of the cytokines IL-1, IL-6, and TNF- α , resulting in increased appetite and body weight. So, we observed the effects of LAHT on food intake, body weight, and cytokine levels of tumor-bearing one [5,26-39].

Our study showed that the moxa stick LAHT could significantly increase the food intake of tumor-bearing patient. In the 2nd week from the start of the treatment, the food intake in the 3 tumor-bearing groups all significantly decreased compared with that in the NC group. Moxa stick LAHT significantly increased the food intake of tumor-bearing mice compared to the MC group, and this effect lasted until the 4th week of treatment; in contrast, scarring LAHT did not improve food intake of tumor-bearing patient. Consistent with our study results,

other studies have also confirmed that LAHT could increase the appetite and that LAHT could improve the appetites of elderly people. The study of Akazawa, *et al.* suggested that LAHT treatment was effective and safe for treating anorexia in patients with tumor metastasis [5-10].

The effect of LAHT on the improvement in the body weights of tumor-bearing mice was not as significant as that in the improvement of food intake. Nevertheless, our study observed increased body weights in mice in the MSM group at the point of measurement on the 36th day after the start of the treatment; there was no such effect in the SM group.

Our study further investigated the effects of LAHT on pro-inflammatory factors. Our study confirmed that LAHT (scarring and moxa stick) could significantly lower the levels of serum IL-1, IL-6 and TNF- α in tumor-bearing mice. The comparison between the two groups showed that moxa stick had more obvious effects than scarring LAHT. Lu, *et al.* reported that LAHT could significantly reduce serum IL-1 β levels in mice trained for exhausted swimming. Yamaguchi, *et al.* reported that LAHT reduced the concentrations of serum IL-1 β , IL-6 and TNF- α in ulcerative colitis patient. Furthermore, Wu, *et al.* showed that IL-1 β and IL-6 mRNA expression levels in ulcerative colitis mice in an herb-partition LAHT group significantly decreased compared with those in the control group. Aoki, *et al.* reported that when LAHT treatment was implemented immediately following injection of *Streptococcus pyogenes* preparation, a significant suppression in lipopolysaccharide (LPS 1 μ g/ml)-induced tumor necrosis factor production by peritoneal macrophages was observed. Wang reported that herb-partition LAHT could inhibit TNF- α expression in the colon tissues of ulcerative colitis patient. The study of Wang, *et al.* showed that direct LAHT could reduce the serum TNF- α levels of rats, which preliminarily indicated that direct LAHT could inhibit precancerous lesions and postpone hepato-carcinogenesis [25,26,30-34].

In summary, LAHT, especially moxa stick, had certain effects on the improvement in the performance status of tumor-bearing mice, increased food intake levels and body weights, and reduced serum IL-1, IL-6 and TNF- α levels. However, the effects of scarring in these areas were not as good as those of moxa stick: scarring did not have effects on food intake and body weight. The analysis of the differences in the functions of moxa stick LAHT and scarring showed that in addition to the presence of defects in our scarring treatment regimen, the fundamental reason for these differences in effects might be the artificial aseptic inflammation caused by scarring itself, which might promote the increased secretion of pro-inflammatory factors to cause loss of appetite and reduction in body weight. The final presentation was the reduction in the effect on the improvement of physical performance. Therefore, we reasoned that one of the mechanisms underlying the improvement in the physical performance of tumor-bearing mice by LAHT was the reductions in serum levels of the cytokines IL-1, IL-6 and TNF- α , resulting in increased appetite and body weight and improving the performance status. However, analysis of the SM group showed that although food intake and body weight in the SM group were not improved, physical performance was improved, indicating that the improvement of physical performance by LAHT might have other mechanisms. We will investigate this possibility in other studies.

Although poor physical performance suggests poor prognosis and lack of efficacy, there are few reports exploring how to improve the performance status. A few articles considered that nutrition interventions could improve the performance status of patients from the nutritional perspective. However, overall treatment methods that can actively and effectively improve the performance status of cancer patients are still lacking.

Our study showed that LAHT could significantly improve the performance status of tumor-bearing mice using either scarring or moxa stick. The improvement in physical performance by moxa stick was even more significant than that by scarring LAHT.

Conclusion

LAHT, especially heating stick LAHT, can significantly improve the performance status of capillary condition.

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