

Application and exploration of suspended magnetic moxibustion cup for obesity

悬磁灸罐在肥胖症治疗中的应用及探讨

Liu Hong-hua (刘红华), Liu Xia (刘霞), Luo Hong-yan (罗红艳), Liu Mi (刘密), Chang Xiao-rong (常小荣), Liu Mai-lan (刘迈兰)
School of Acupuncture, Moxibustion & Tuina, Hunan University of Chinese Medicine, Changsha 410208, China

Abstract

The suspended magnetic moxibustion cupping therapy, as a specific moxibustion method which collects moxibustion, cupping, infrared and magnetic therapy into one, and integrates with the warming and heating effect of moxibustion, sucking effect of cups, and effect of infrared light energy and magnetic energy, is a particularly unique method for weight loss. This article introduces the basic situation and mechanism of suspended magnetic cupping therapy for weight loss. For pathogenesis of deficiency, phlegm, stagnation and cold in obesity, Shuang Long Xi Zhu (two dragons playing a ball) moxibustion, abdominal Jiu Gong (nine palaces) moxibustion, San Yang Kai Tai (auspicious beginning) moxibustion and Chang Long (long dragon) moxibustion were given respectively. This therapy has inspired the clinical idea of Chinese medicine for obesity.

Keywords: Cupping Therapy; Moxibustion Therapy; Suspended Magnetic Moxibustion Cup; Obesity; Weight Loss; Acupuncture-moxibustion Apparatus

【摘要】悬磁灸罐特色灸法集灸法、罐法、红外线以及磁疗4种治疗手段于一体,综合了灸的温热效应、罐的负压作用、红外光能与磁能作用,是一种极具特色的减肥方法。本文介绍了悬磁灸罐的基本情况和减肥机理。针对肥胖症虚、痰、瘀、寒的病机,给予对应的双龙戏珠灸、腹部九宫灸、三阳开泰灸和长龙灸的针灸处方。这一疗法拓展了中医治疗肥胖症的临床思路。

【关键词】拔罐疗法;灸法;悬磁灸罐;肥胖症;体重减轻;针灸器械

【中图分类号】R246.1 **【文献标志码】**A

Obesity is a chronic metabolic disease caused by multiple factors and associated with diabetes II, hypertension, hyperlipidemia, hyperuricemia, ischemic cardiocerebrovascular diseases, cancer and osteochondrosis^[1]. In 1977, the World Health Organization (WHO) precisely declared that it was a disease^[2]. With the development of social economy and change of life mode, obesity has prevailed in the whole world, seriously harmful to the health of the mankind. Obesity has become a major chronic disease in the adults of the whole world^[3].

The therapies for obesity include behavior therapy, dietetic therapy, exercise therapy, also Chinese herbal medicine, Western medications, surgery, acupuncture therapy, cupping therapy, magnetic energy therapy and photodynamic therapy. The behavior therapy, dietetic therapy and exercise therapy are long in course and slow in therapeutic effect, difficult for continuous treatment and poor in compliance. Medication and

surgery, with multiple adverse reactions, may induce complications and be higher in risks. Acupuncture therapy for weight loss, free of toxic and side effect, is precise in therapeutic effect, but many patients are afraid of needles. Because the patients are afraid of fire and pain, the professional ability and special care are highly needed in operation and multiple acupoints are difficult to be applied at the same time, moxibustion cannot be often applied extensively for weight loss. Therefore, it is significant to seek a painless, non-traumatic, safe and effective method for the patients with obesity^[4-5]. The suspended magnetic moxibustion cup, combining moxibustion, cupping method, infrared ray and magnetic therapy, is a special advantageous method to lose body weight. This article introduces the application of suspended magnetic moxibustion cup in losing body weight from its basic situation, principle and prescriptions.

1 Basic Introduction of Suspended Magnetic Moxibustion Cup

Infrared suspended magnetic moxibustion cup is created by Shen Jing-guo, who is the standing director

Author: Liu Hong-hua, doctoral candidate, lecturer

Joint Corresponding Authors: Chang Xiao-rong, bachelor, professor, doctoral supervisor. E-mail: rxchang1956@163.com; Liu Mai-lan, associate professor. E-mail: 445007305@qq.com

of Sub-health Professional Committee of World Federation of Chinese Medicine Societies, and the standing member of China Heaven-Earth-People Harmony Life Reservation Association. It is produced by Guanzhou Roujia Biotechnology Co., Ltd., by combining the academic thoughts of the theory of yin and yang, five elements, eight trigrams of the *Yi Jing (Book of Changes)*, twelve meridians, and time acupuncture in its design. It has been awarded 39 patents in the intellectual property rights. Its main structure includes five parts, an upper lid (spring, middle lid and top lid), a cup body, a base, an infrared heat-insulated net and an inner core (Figure 1).

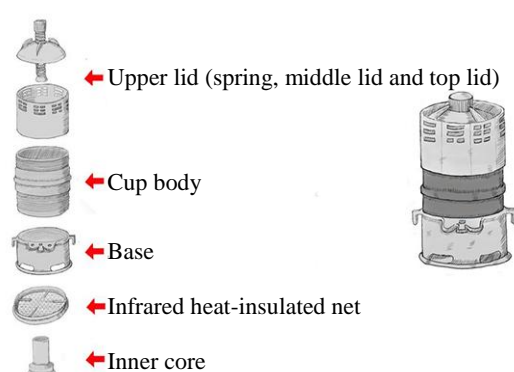


Figure 1. Structure of a suspended magnetic moxibustion cup

Features and advantages: Because there is a hook on the base, several cups can be hanged and linked for applying moxibustion simultaneously on multiple acupoints or meridians. At the same time, cups are linked with the magnet attached on the cup body and the inner core, which makes it easy to place the cups, for strengthening the stability and safety of cups and regulating the magnetic field of the human body. The integration of moxibustion and cups, plus infrared light energy effect, can ensure sufficient dose of moxibustion, with smoking, steaming and ironing effect. The upper lid is designed with eight-trigram mode of vacuum ventilation of yin hexagram and no ventilation of yang hexagram. By turning the upper lid, the eight-trigram mode can be adjusted to regulate the volume of wind, so as to regulate and control the burning strength of moxa flame and emission of smoking. On the other hand, by regulating the upper and lower distance of cup body, the distance between moxa cones and skin of the acupoints can be adjusted for regulating the temperature of moxibustion. By holistic application of several cups and regulation of moxa flaming degree and the temperature of moxa smoking and flame, controllable moxa flame and smoking can solve the problem that traditional moxibustion cannot be applied simultaneously on multiple acupoints, and prevent the patients from being afraid of fire and pain of

moxibustion, and avoid special care and high professional operation.

2 Mechanisms of Suspended Magnetic Moxibustion Cupping Therapy for Weight Loss

2.1 Etiology and pathogenesis of obesity

It is believed in Chinese medicine that this disease is mainly caused by improper food ingestion, over intake of fat, greasy and sweet food, as well as lying and sitting for long time and physical inactivity, which leads to qi stagnation or qi deficiency, and further results in failure of transformation and transportation, internal accumulation of phlegm and dampness and then obesity. This condition is also caused by seven emotional factors and internal injury, leading to stagnation of the liver qi and failure of the liver and gallbladder in maintaining the smooth circulation of qi and influencing the normal transportation of the spleen, and further resulting in disorder in ascension and descension of qi movement, or caused by failure of normal secretion of bile, influencing lipid metabolism, and hence resulting in accumulation of fat and then obesity. Qi stagnation or deficiency can not only cause the retention of lipids, phlegm and dampness, but also can disturb qi movement and meridians, inducing qi stagnation or blood stasis. The affection of exogenous pathogenic cold would damage the spleen yang, and gradually damage the kidney yang, leading to yang deficiency in the spleen and kidney and insufficiency of qi transformation, and hence resulting in internal retention of water and dampness. The internal retention of water and dampness would also damage yang qi, resulting in vicious circle and obesity. Therefore, the etiology and pathogenesis can be generalized into weak body constitution and excessive symptoms, in which qi deficiency is a fundamental reason and the inducing factors are related to pathogenic dampness, phlegm, blood stasis and pathogenic cold.

2.2 Mechanism of suspended magnetic moxibustion cupping therapy

The therapy of suspended magnetic moxibustion cup, strong in warming-dredging effect and in warming-reinforcing effect, is a comprehensive therapy combining warming and heating effect of moxibustion, vacuum effect of cupping, and infrared light and magnetic effect. First of all, in moxibustion of the therapy by suspended magnetic moxibustion cup, moxa flame belongs to its fire source. By the sucking force of the cup, heat from moxa is transmitted into the meridians, which gives a synergetic effect. Secondly, the heat energy is transported to the skin by infrared heat-insulated net, to dredge the meridians and collaterals. Thirdly, by magnetic energy of the cup body and inner core, the external magnetic field is used to

regulate the magnetic field inside the body and regulate the biological electromagnetic balance of the human body, for strengthening the immunity and treating diseases. In summary, suspended magnetic moxibustion cup can realize the synchronous import of moxibustion, cupping, infrared light energy and magnetic energy, to produce a resonant effect by going through the skin tissues of the human body, and let the biological cells to absorb energy, so as to induce the warming and heating effect in the tissues, and then activate the tissue cells and excite the functions of the organs, for discharging toxin, expelling blood stasis, dissipating pathogenic cold and dampness, dredging the meridians, and warming up and reinforcing yang qi.

2.2.1 Mechanism of moxibustion for weight loss in suspended magnetic moxibustion cupping therapy

By the heat force of moxa flame, moxibustion is supposed to produce a warming and heating stimulation to the meridians and acupoints of the human body, for dispersing pathogenic wind and cold, dredging the meridians and collaterals, supporting yang and avoiding qi prostration, dispersing stagnation and accumulation and diminishing abdominal lump^[6]. Obesity is mostly related to qi deficiency and yang deficiency in pathogenesis. Moxibustion therapy has the effects to warm up yang, alleviate water retention, strengthen the spleen and dissolve dampness, regulate qi and dissolve phlegm, expel phlegm and dampness and regulate qi and blood, so as to treat obesity.

It has been proven by the relevant studies that moxibustion can warm up and dredge the meridians and collaterals, activate blood and dissolve blood stasis, and reinforce and benefit qi and blood. It has been proven by the study of Chang XR, *et al*^[7] that the warming and dredging effect produced by warming and heating stimulation of moxibustion can enhance blood flow volume in the gastric mucosa in rats with gastric mucosal lesion in pattern of deficiency and cold of the spleen and stomach, strengthen the motor functions of the stomach and intestines, i.e. moxibustion can promote smoothness by warmth. It has been proven by the studies of Zhang HF^[8] and Wang YS^[9] that the initiating mechanism of moxibustion in promoting the dredging effect by warmth might be related to mRNA expression of transient receptor potential vanilloid 1 (TRPV1) in TRP family of the thermoreceptor and its effect in exciting the cutaneous neurogenic inflammation. It has been proven by the study of Yu SG, *et al*^[10] that moxibustion can improve blood circulation, regulate the contraction of blood vessels, regulate hemorheology, reduce the viscosity of plasma and whole blood, and has obvious effect to activate blood and dissolve blood stasis. It has been proven by the study of Chang XR, *et al*^[7] that moxibustion can excite the effect of the endogenous protective substances by

warming and heating stimulation, to promote the repair of the gastric mucosal lesion, promote protein metabolism, strengthen the energy metabolism, regulate the nerve-endocrine-immune network, regulate Zang-fu organs, build up Yuan-primary qi, and promote metabolism.

2.2.2 Mechanism of cupping for weight loss in suspended magnetic moxibustion cupping therapy

Guided by the theory of traditional Chinese medicine (TCM), the cupping method for body weight reduction is supposed to stimulate the corresponding acupoints, dredge the meridians, discharge toxin and clear away heat, promote the quick decomposition of lipids inside the body, reduce and eliminate lipids, so as to realize the effect for general body weight reduction^[11]. It has been proven by the study of Jiang XJ, *et al*^[12] that the cupping method can alleviate painful menstruation in females with blood stasis constitution, and can relieve the menstrual symptoms of blood clots, menstrual blood volume and distending pain in the breast, bloating in the lower abdomen, soreness and pain in the lumbar and sacral region, bleeding during menstruation, diarrhea, fatigue and lassitude. Li DD, *et al*^[13] summarized the functional mechanism of cupping method as follows: vacuum of the cups dilated the blood vessels, promoted the increase of blood flow volume in the skin of the treated area, enhanced oxygen consumption, and improved metabolism of local energy. Vacuum of the cups induces autohemolysis, which releases the neurotransmitter, increases the hemoglobin volume in the local area, balances free radicals by nerve-humor regulation, and strengthens the immune functions of erythrocytes, immunoglobulin and lymphocytes, so as to regulate the immune functions of the human body.

2.2.3 Mechanism of infrared light energy and magnetic energy for weight loss in suspended magnetic moxibustion cupping therapy

Infrared light penetrates the deep area of the skin tissues, which is able to elevate the tissue temperature, dilate the local capillaries and small arteries, infiltrate white blood cells around blood vessels, and strengthen the phagocytic capacity of mononuclear reticular endothelial cells, so it has the anti-inflammatory and contractive effect and is able to strengthen the immunity^[14]. In observation of influence of far infrared ray (FIR) via infrared thermography on the human body by external application to Xinshu (BL 15), Wang SY, *et al*^[15] found that the temperature of Xinshu (BL 15) was elevated, and local blood circulation of the acupoint and the transmission of needling sensation along the meridian were strengthened. By infrared ray net, the suspended magnetic moxibustion cupping therapy produces photo-thermal radiation and heat transfer,

burning and decomposing the local lipids and strengthening the metabolic functions of the intestines and stomach. The magnetic energy of suspended magnetic moxibustion cup is supposed to impact the human body by stimulating the acupoints by the magnetic field, so as to treat obesity^[16]. Magnetic therapy can inhibit hyperactive appetite of the obese patients, reduce food ingestion, and can also inhibit the hyperactive digestive and absorbing functions of the stomach and intestines and reduce absorption of energy in the body, so as to reduce ingestion of energy, and at the same time, can promote energy metabolism, promote fat mobilization and decomposition, improve blood lipid metabolism, and finally realize the effect of weight loss^[17].

3 Prescriptions for Weight Loss by Suspended Magnetic Moxibustion Cupping Therapy

The suspended magnetic moxibustion cupping therapy, combining moxibustion, cupping method and infrared ray and magnetic therapy, focusing on four major basic pathogenic factors including blood stasis, cold, deficiency and phlegm in obesity, is used to treat obesity by dredging the collaterals, dissolving phlegm, warming up yang and dissipating cold, reinforcing and benefiting qi and blood, and strengthening the spleen and dissolving phlegm.

3.1 San Yang Kai Tai (auspicious beginning) moxibustion

Suitable group: Obese patients with blood stasis.

Acupoints: The Governor Vessel and the first lateral lines of the Bladder Meridian (1.5 cun lateral to the posterior midline), from Taodao (GV 13) and Dazhu (BL 11) at the level of around the first thoracic vertebra to Yaoyangguan (GV 3) and Dachangshu (BL 25) at the level of the fourth lumbar vertebra, and Dazhui (GV 14).

Method: After the patient takes a prone position, open the cup and ignite moxa cone, and put the ignited moxa cone inside the cup and cover the cup. Place respectively six moxa cups on the Governor Vessel and bilateral Bladder Meridian, and put one moxibustion cup on Dazhui (GV 14), and fix them in three rows. Governor Vessel is the sea of yang meridians. Dazhui (GV 14) is a gathering site of various yang. The Bladder Meridian is giant yang. The Back-Shu points of Zang-fu organs are situated on the first lateral line of the Bladder Meridian. By applying six cups at the same time, the warming and reinforcing power is strong, belonging to heavy moxibustion, able to perform a strong dredging effect, and force the warming and heating power to penetrate deep into blood vessels, so as to dredge the meridians, warm up and dredge blood vessels, soothe the liver and relieve stagnation, activate blood and disperse blood stasis. Therefore, this type of

moxibustion is suitable for obesity in pattern of blood stasis (Figure 2).



Figure 2. San Yang Kai Tai (auspicious beginning) moxibustion

3.2 Chang Long (long dragon) moxibustion

Suitable group: Obese patients in pattern of collaterals obstructed by cold and dampness.

Acupoints: A total of nine cups on the Governor Vessel from Dazhui (GV 14) to Yaoshu (GV 2), or three cups on the Bladder Meridian of the lumbar region at the same time, in order to strengthen the effect to eliminate pathogenic cold and dampness.

Method: After the patient took a prone position, open the cup and ignite moxa cone, and put the ignited moxa cone inside the cup and cover the cup. Place nine cups on the Governor Vessel from Dazhui (GV 14) to Yaoshu (GV 2), linked like a dragon, then adjust the air vent to moderate and apply three moxa cones (Figure 3).



Figure 3. Chang Long (long dragon) moxibustion

Chang Long (long dragon) moxibustion is mainly applied to the Governor Vessel. The Governor Vessel is the sea of yang meridians. Because nine is a number of pure yang, nine cups on the Governor Vessel are supposed to warm up yang and disperse cold. In order to strengthen the effect to disperse cold, place three

cups additionally on the Bladder Meridian of the lumbar region, forming nine block boxes in the lumbar region, for warming up yang, dispersing cold and balancing yin and yang. To adjust the air vent to moderate and apply three moxa cones continuously is supposed to slowly disperse cold. Therefore, the warming and reinforcing power of Chang Long (long dragon) moxibustion is comparatively strong and lasts for long time, in order to assist the transmission of warming and heating power, for warming up the kidney and assisting yang, warming up yang and dispersing cold, transforming qi and alleviating water retention. It is suitable for obesity in pattern of obstruction of the collaterals by pathogenic cold and dampness.

3.3 Shuang Long Xi Zhu (two dragons playing a ball) moxibustion

Suitable group: Obese patients in pattern of deficiency of qi and blood.

Acupoints: The first lateral lines of the Bladder Meridian, focusing on Back-Shu points of five Zang organs, with Dazhui (GV 14), Yishe (BL 49), Zhongwan (CV 12), Qihai (CV 6) and Zusanli (ST 36) added for spleen qi deficiency, with Gaohuang (BL 43), Mingmen (GV 4), Chengshan (BL 57) and Guanyuan (CV 4) added for yang deficiency of the spleen and kidney.

Method: After the patient took a prone position, open the cup and ignite moxa cone, and put the ignited moxa cone inside the cup and cover the cup. Place six cups on the line 1.5 cun lateral to the first lateral line of the Bladder Meridian, linked like two dragons, and place one cup on Dazhui (GV 14), linked like two dragons playing a ball. If the back is wide, it is advisable to add two cups, and adjust the air vent to small volume, and apply three moxa cones continuously. In accordance with pattern identification, place one cup on the corresponding point and fix it (Figure 4).

Shuang Long Xi Zhu (two dragons playing a ball) moxibustion is mainly applied on Back-Shu points of five Zang organs on the bilateral bladder meridian, for the purpose to treat yin problems by yang. To adjust the air vent to small volume and apply three moxa cones continuously means to reinforce qi and blood slowly. Therefore, Shuang Long Xi Zhu (two dragons playing a ball) moxibustion lasts for a long time and is moderate in the warming and reinforcing power, good for the warming and heating power to arrive slowly, for dredging the collaterals slightly, regulating and replenishing the five Zang organs, and benefiting qi and blood. It is suitable for obesity in pattern of deficiency.

3.4 Abdominal Jiu Gong (nine palaces) moxibustion

Suitable group: Obese patients in pattern of internal exuberance of phlegm and dampness.

Acupoints: Acupoints of the Conception Vessel and Stomach Meridian on the abdomen, based upon Shenque (CV 8) as core, with Shousanli (LI 10), Zusanli (ST 36) and Fenglong (ST 40) added for four limbs.

Method: After the patient took a prone position, open the cup and ignite moxa cone, and put the ignited moxa cone inside the cup and cover the cup. Place them respectively on Liangmen (ST 21) on the left, Zhongwan (CV 12), Liangmen (ST 21) on the right, Tianshu (ST 25) on the left, Shenque (CV 8), Tianshu (ST 25) on the right, Shuidao (ST 28) on the left, Guanyuan (CV 4) and Shuidao (ST 28) on the right. In accordance with pattern identification, place one cup on the corresponding four limbs and fix it (Figure 5).



Figure 4. Shuang Long Xi Zhu (two dragons playing a ball) moxibustion



Figure 5. Abdominal Jiu Gong (nine palaces) moxibustion

The patient sick with phlegm should be treated by warming agents. In abdominal Jiu Gong (nine palaces) moxibustion, Shenque (CV 8) is selected as the core point. It is said in *Dao Zang (Taoist Canon)* that 'Shen' means extreme changes; 'Que' means middle gate. Therefore, Shenque (CV 8) is a spiritual middle gate in Chinese language, implying dignitary. The spirit is most valuable in the human body. This acupoint is an

important gate for communication between the heart and kidney (The heart stores the mind and spirit, and the kidney stores ambition), combined with four positive positions [Zhongwan (CV 12), Guanyuan (CV 4) and Tianshu (ST 25)] and four corner positions [Liangmen (ST 21), Shuidao (ST 28)], implying the harmonious method of nine palaces, with intention to regulate the balance of Zang-fu organs, dissolve phlegm and eliminate lipids. It is suitable for obesity in pattern of abundant phlegm and dampness.

4 Summary

Suspended magnetic moxibustion cup is a new cup combining moxibustion, cupping, infrared and magnetic therapies. Because of its safety, free of toxic and side effect, economical and simple and easy operation, it can be used to deal with both the causative factors and manifestations and to simultaneously inspire clinical ideas in the treatment of obesity by TCM theory. But, the relevant clinical and experimental studies are still not sufficient, and its concrete mechanism of the clinical effects needs to be studied further. Small sample controlled trials of multiple centers can be launched to observe the long-term effect, safety and reliability of the therapeutic effects of suspended magnetic moxibustion cupping therapy, in order to build up a scientifically standard and optimized treatment protocol for obesity.

Conflict of Interest

There was no potential conflict of interest in this article.

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Translator: Huang Guo-qi (黄国琪)