
Microbial treatment; process equipment; aIntroduction to the Historical Development and Therapeutic Mechanisms of Cupping therapy from Traditional Chinese Medicine bandoned drilling mud

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Abstract

Cupping therapy is an ancient traditional and complementary medicine practice. Recently, there is growing evidence of its potential benefits in the treatment of various diseases. This article gives an overview of cupping therapy practice and the historical development and therapeutic mechanisms. Furthermore, this article suggests a new classification of cupping therapy sets and an updated classification of cupping therapy was briefly introduced.

Keywords

Cupping therapy; therapeutic mechanisms; historical development.

1. Introduction

Cupping therapy (CT) is an ancient traditional and complementary medicine practice [1-3]. The earliest record of cupping in ancient times appeared in the "Fifty-two Diseases", in which during the Tang Dynasty, there was a detailed record of the use of "corn cupping" (horn-shaped) for disease treatment. Cupping therapy is an ancient traditional and complementary medicine practice. According to different materials and functional characteristics the traditional tank cup could be divided into angle cups, bamboo cups, ceramic cups and glass cups. The CT treatment in Chinese medicine is divided into water (wet) cupping, dry cupping, clay cupping, medicine pots, moxibustion cupping and so on. With the development of modern medical theories and techniques, cups (body) or cups with a variety of new materials or new functions have emerged, such as soft and hard rubber cups, metal cups, vacuum cups, nano-silicone cups, smart cups, etc. Furthermore, as the cupping therapy (CT) has been continuously developed and progressed, various types of modernized and improved cups also have appeared, including magnetic cups, hot pots, acupuncture, electric cups, and infrared radiation cups. Among them, the Fu cups invented by Professor Fu Wenxin of our hospital, was regarded as a combination of traditional cups and general cupping [4]. The new cups has provides great improvements and innovations in cupping bodies and cupping usage methods instead of the traditional single cup, mainly comprising three parts: the basic cup body, the measuring and control equipment and the medical equipment). More importantly, it has made us have a deeper research and understanding of the mechanism of CT action. The new invitation expands of the traditional cupping therapy is promoted by using one negative pressure of environmental factor to taking advantage of all environmental factors, including force, sound, heat, electromagnetic, light, chemicals, biological

factors, etc. which makes CT have effects far beyond that of traditional cups [5-9]. Meanwhile, it has the functions of sputum, attachment, application and rubbing, which greatly improves the application range and clinical efficacy of cupping therapy [10]. As cupping therapy is very popular in many countries, especially in China, Korea, Japan and Saudi Arabia, our article could give an overview of cupping therapy practice and the historical development and therapeutic mechanisms, and a new application for FCT was discovered [4]

2. Effect mechanisms of cupping therapy

Under the guidance of basic theory of Chinese medicine, especially meridian theory, through negative pressure suction [11-14], ironing the skin, pulling and squeezing the shallow muscles [15], stimulating the meridians, acupoints [16-19], and propagating sensation along channel, thereby cupping therapy could adjust the qi, blood, yin and yang, dredge the meridians [20-25], and achieve the effect of illness fitness and relative equilibrium of yin-yang.

2.1 Mechanisms of cupping therapy

CT could adjust skin blood flow [12, 14], make changes in biomechanical properties of the skin [4, 12, 14, 24, 26-32], increase immediate pressure pain thresholds in some areas, adjust serum P substance and quickly reduce the inflammation situation [33].

2.2 Mechanical stimulation

CT causes negative pressure in the tank through the exhaust, and the edge of the cup is tightly attached to the surface of the skin, pulling the nerves, muscles [15], blood vessels [11] and subcutaneous glands, which causes a series of neuroendocrine reactions [34], regulate vasodilation and contraction functions [35] and vascular permeability to improve local blood circulation [8, 11, 29]

2.3 Thermal stimulations

The warming stimulations and effects induced by cupping treatment in local cupping regions not only increases blood vessel expansion, but also enhances the permeability of the blood vessel wall and the phagocytic ability of the cells [11, 21, 36].

Changes in vascular tone and mucosal permeability at cupping regions could accelerate lymphatic circulation, enhance phagocytosis, and undoubtedly form a good environment for anti-biological causes. In addition, the chronic stimulation of hemolysis produced by cupping treatment has a health function of improving human immunity, disease resistance, reducing sub-health and treating various chronic diseases for the human body [8].

2.4 Negative pressure effects

Firstly, the negative pressure produced by cupping treatment [8, 11-14, 37-39] causes local rapid congestion, congestion, small capillaries and even rupture [12, 40], red blood cell destruction [37, 41-43] and hemolysis [8]. During the cupping treatment, the release of hemoglobin in red blood cells heralds a benign stimulus originated from CT to the body, which regulates the function of tissues and organs through the nervous system, promote the phagocytosis of white blood cells, improve the sensitivity and tolerance of skin to external changes, thereby enhance the body immunities and ultimately achieve the purpose of treating the disease.

Secondly, the strong suction force of negative pressure produced by CT makes the pores of sweat fully open, the function of sweat glands and sebaceous glands are strengthened by negative pressure stimulation and aging cells originating from the surface of the skin fall off, so that the toxins and wastes in the body are accelerate to discharge. Meanwhile, it be understood that the negative pressure is less than the intradermal pressure to promote the transdermal action of the drug [4].

Moreover, the mechanical and warm stimulations induced by cupping therapy expand the capillaries, stimulate the skin temperature receptors, regulate the body's heat production and heat dissipation via

the hypothalamic body temperature regulation center, and restore the body temperature to normal [44, 45].

3. Clinical application of cupping therapy

3.1 Assistant the diagnosis

By observing cupping spot, cupping sha, cupping bubble, etc, that appears after cupping, the location, severity and nature of the disease could be judged and diagnosed. In the Ming Dynasty, Chen Shigong analyzed the pus and blood extracted from hemorrhoids in cups to determine the pathological condition of sore and prognosis of ulcers. Generally speaking, the deeper lesion areas in the cup spot and cup sha are the places where pathogenic factor exists.

For example, when cupping with a walking way on the back, the dark spot of the scup and the area of the sha appear in some parts, that is, the corresponding organs have pathological changes.

After CT, the cupping spots or sha turned from deep to shallow, showing the pathological cause of evil removal and recovery of vital and positive qi. When the canal is shallow at the beginning of the cupping treatment, it indicates the vital energy and blood of the patient is weak. If the cup bubbles are prone to generate, it indicates the patient is weaker and has less blood and positive qi.

3.2 Curing disease

With the development of cupping and its methods of use, and the in-depth study of the mechanism of action, cupping has a good therapeutic effect on many diseases [3, 5, 6, 11, 13, 20, 22, 28, 33, 37, 42, 45-58], and its effect is superior to other traditional Chinese and Western medicine. Cupping has been widely used in the treatment of the following diseases: pertussis, exogenous cough, asthma [50, 59, 60], cold, pneumothorax [61], stroke sequelae, snoring, hypertension [47, 62, 63], rheumatoid arthritis [41, 42], diarrhea, hemorrhoids [57], acute appendicitis, abdominal pain [3, 7, 12, 14, 18, 23, 24, 26, 27, 29-31, 36, 40, 42, 44, 48, 50, 52, 54, 62-98], sporotrichosis, vitiligo, facial macula, neurodermatitis, urticaria [36], scab, psoriasis [32, 99], chronic sinus, hemifacial spasm, herpes zoster [6, 50, 100, 101], dysmenorrhea [76], urinary calculi, vocal nodules, lower limb erysipelas, pediatric hyperactivity, cognitive decline in the elderly, multiple dreams, low back pain [12, 14, 18, 23, 26, 31, 50, 62-66, 68-70, 73, 75, 78, 80, 81, 83, 85, 94, 97], lumbar disc herniation [6, 40], tibia External epicondylitis, cervical spondylosis [6, 19, 98, 102], gastrointestinal reactions after chemotherapy [57, 77], etc. The treatment of CT combination with medication is the injection of traditional drugs after cupping on human bodies, so that the pores of the skin are opened, the magnetic field effect is beneficial to the transdermal absorption of the drug, so that the drug reaches the affected part. Moreover, CT generally does not cause any serious pain to the patient, and transdermal administration after cupping does not cause liver or kidney side effects on the liver and kidney like oral or intravenous intramuscular injection. On the contrary, this makes it possible that using a small amount of drugs could achieve a better therapeutic effect, with the effect of acupoint injection.

3.3 Cup point selection principles

The most commonly used principle in the cupping treatment is that pain indicates the point that is cupping points, namely "cupping where disease is", and some researches showed it had a good effect on various pain syndromes [36, 73, 75, 76, 80, 92-94, 96, 98]. According to meridian differentiation: for some exogenous and chronic disease syndrome [62], electing pain points and cupping on back cup achieve better therapeutic effects. For chronic diseases, first go to the back of the bladder line, and then leave the cupping at the back, shu, mu, original, joint points, etc. to increase its stimulation in human bodies.

4. Summary

In general, cupping is contraindicated directly on veins, arteries, nerves, skin inflammation, any skin lesion, body orifices, eyes, lymph nodes, or varicose veins. Cupping is also contraindicated on open wounds, bone fractures, and sites of deep vein thrombosis, and cupping has a good therapeutic effect on many diseases. Now a new application for FCT was discovered that CT was used as a new form of physical technology for transdermal administration with TCM characteristics to exert a significant effect on penetration enhancement, and has high value for traditional Chinese medicine (TCM) clinical applications [4]. It was known the percutaneous drug delivery system has become a hot spot in pharmaceuticals research with its own advantages and characteristics. It has shown the combination of CT physical methods and penetration-enhancing techniques could promote the transdermal absorption of drugs more effectively. And with lightening of TCM cupping therapy - the emergence of rubber cups and plastic cups, it may be easily squeezed or pumped, which makes CT operations simple and easy to learn and understand, safe and reliable, and overcomes the disadvantages of other physical promotion of transdermal absorption methods.

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