

Cupping therapy in pain management- A review

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ABSTRACT-

Pain is the most common reason for seeking therapeutic alternatives to conventional medicine¹. *Raktamokshan* is accepted as half of the therapeutic measure in *Shalyatantra* like *Basti* in *Kayachikitsa*². *Raktamokshan* is one of the fascinating and satisfactory answer for many diseases. *Shring* and *Alabu* therapy mentioned in Ayurveda for *Raktamokshan* can be correlated with cupping which is a modified form of *Shring* and *Alabu* therapy³.

Cupping therapy is a traditional therapy used from ancient era. A therapeutic Cupping treatment involves warming and placing cups on skin part of body for treatment. Cupping is thought

to act mainly by increasing local blood circulation and relieving painful muscle tension⁴.

The objective of the following study is to study the effectiveness of cupping as a treatment for pain and to identify the possible mechanisms of action of cupping therapy from modern medicine perspective and offer possible explanation of its effects. Data is collected from *Samhita*, Reference Books and Published Articles.

Keywords- Pain. *Raktamokshan*, Cupping Therapy

INTRODUCTION-

Pain is a distressing feeling often caused by intense or damaging stimuli.

The international association for the study of pain widely used definition of pain as “An unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage⁵”. Pain is the most common reason for seeking therapeutic alternatives to conventional medicine¹

Raktamokshan is accepted as half of the therapeutic measure in *Shalyatantra* like *Basti* in *Kayachikitsa*². In Ayurveda, Acharya *Sushruta* explained the principle of *Pradhanakarma* to treat various diseases wherein '*Raktamokshan*' is one of its function that resembled the cupping therapy. *Raktamokshan* implied the refinement of blood by removing toxins from blood stream. *Shring* and *Alabu* therapy mentioned in Ayurveda for *Raktamokshan* can be correlated with cupping which is a modified form of *Shring* and *Alabu* therapy³.

Cupping therapy is a therapy of alternative medicine. Due to use of cups, it is called as cupping therapy. “*Hijama*” is alternative name of cupping therapy. It is an Arabic word, which means to suck⁵. Most commonly cups are made out of glass. However cups are made of

bamboo, clay or animal horns⁵. Cupping is a widely used therapeutic regimen with high acceptance in many countries. There is increasing evidence that reflex therapies, including cupping are helpful in reducing pain⁷. Cupping is thought to act mainly by increasing local blood circulation and relieving painful muscle tension. It is the deep tissue massage which normalizes the patient's functional state and progressive muscle relaxation⁸.

As cupping therapy used in people to improve health, it is essential to explore their scientific and biomedical scope. A brief picture of cupping therapy is portrayed in this review so as to understand its existing mechanisms and pharmacological actions and rejuvenate its relevance in current medical scenario.

AIM-

To summarise and critically evaluate the effectiveness of cupping as singular treatment for pain.

OBJECTIVE

To identify the possible mechanisms of action of cupping therapy from modern medicine perspective and offer possible explanation of its effects.

REVIEW OF CUPPING THERAPY

A) Definition of Cupping Therapy

The World Health Organization's (WHO) definition of cupping is therapeutic method involving the application of suction by creating vacuum. This is typically done using fire in a cup or jar on the dermis of the affected part of the body⁹.

B) Types of Cupping Therapy-⁶

1) Dry Cupping (Non-Invasive / Without Blood Letting)

A) Vacuum created by Manual with Suction pump

B) Vacuum created with Fire.

2) Wet Cupping (Invasive / With Blood Letting)

Essential or Voluntary Cupping

C) Cupping Therapy Technique-Material-

- 1) Cupping set- six or more different sized cups (plastic, glass, rubber bamboo, ceramic, metal, and silicone cupping sets¹⁰).
- 2) Suction- Manual, Automatic or Self suction cupping sets¹⁰.
- 3) Scalpel blade no 15 to 21, puncturing needle, auto lancing device or plum blossom needle¹¹.

- 4) Dressing Material- Skin disinfectant, pad, Adhesive strips¹¹.

Method-

Cupping is simple application of quick, vigorous, rhythmical strokes to stimulate muscles and is particularly helpful in the cupping treatment of aches and pains of various diseases. Each cupping session takes about 20 min and could be conducted in five steps¹¹.

- 1) **Primary suction** - In this phase, the therapists allocate specific points or areas for cupping and disinfects the area. A cup with a suitable size is placed on the selected site and the therapist suck the air inside the cup by flame, electrical or manual suction. Then the cup is applied to the skin and left for a period of 3-5 min.
- 2) **Scarification and puncturing-** Superficial incisions are made on the skin using surgical scalpel blade, or puncturing with a needle, auto-lancing device or a plum blossom needle.
- 3) **Suction and Bloodletting-** The cup is placed back on the skin using the similar procedure described for 3-5 min.
- 4) **Removal of the cup**

- 5) **Dressing** the area after cleaning and disinfecting with FDA approved skin disinfectant.

D) Duration of Cupping Therapy⁶ -

- 1) The cups are left in place anywhere from 5-20 minutes depending on the nature of individual's condition.
- 2) A general course of treatment involves 4-6 sessions in intervals starting from 3-10 days gaps.

E) Indications of Cupping Therapy⁶

1. Pain.
2. Stiffness
3. Muscular spasms
4. Skin disorder
5. Digestive complaints
6. Lung disorders.
7. Lumbar disc herniation, cervical spondylitis, cough, bronchial congestion, asthma, anxiety, paralysis, depression, back pain, varicose veins, High blood pressure, eczema, acne, fertility, arthritis, fibromyalgia, diabetes, herpes zoster, insomnia and gout.

F) Contraindications⁶ -

1. Patients with bleeding disorders such as hemophilia or who are being treated with anticoagulants.
2. Cupping should not be performed on skin sites with active

inflammation, burns, infection and open wounds.

3. Child (less than 2 years)
4. Elderly (more than 60 years).
5. Pregnant
6. Menstruating.
7. After bath¹².
8. Open wounds¹²
9. Varicose veins¹²
10. Deep Vein Thrombosis.

G) Cupping Adverse Events⁶ -

Cupping therapy adverse events can be divided into local and systematic adverse events.

Local adverse events are-

1. Bruises (Hematoma)
2. Marks on skin
3. Minor to severe burns (in fire cupping)
4. Panniculitis
5. Abscess formation
6. Irritation
7. Pain at incision site
8. Infection at incision site

Systematic adverse events are-

1. Anemia
2. Dizziness
3. Vasovagal shock
4. Insomnia

5. Headache

6. Nausea.

MECHANISM OF ACTION-

1. Raktamokshan-

Raktamokshan (alabu and shring) predominantly acts in *pitta, rakta* and *kaphaja vyadhi* or when *pitta* and *kapha* is *anubandha* to *vata dosha*. In condition of *vata prakopa* due *pitta* and *kapha avarana*, *raktamokshan* can remove the *avarana* of *kapha* and *pitta dosha* giving way for *anulomana* indirectly cures the *vatika* symptoms along with *pitta* or *kapha dosha* and patient gets immediate relief in pain¹³.

2. Cupping Therapy

Three theories have been suggested to explain the effects produced by cupping therapy of Pain reduction. These includes “Pain Gate Theory” (PGT), “Diffuse Noxious Inhibitory Controls” (DNIC) and “Reflex Zone Theory” (RZT)¹¹.

1. Pain Gate Theory- by Melzack and Wall (1965)

It is the most influential theories of pain reduction.

1) Cupping influences chronic pain by altering the signal processing at the level of nociceptors both of the spinal cord and brain.

2) Large fibre impulses also partially close the pre-synaptic gate. It is believed that cupping stimulate pain receptors which lead to increase the frequency of impulses, therefore ultimately leading to closure of pain gates and hence pain reduction.

2. Diffuse Noxious Inhibitory Controls (DNICs) or Conditioned Pain Modulation (CPM)-

This phenomenon is thought to underlie the principle of counter-irritation to reduce pain. Herein “one pain masks another: or “pain inhibits pain”. Local damage of the skin and capillary vessels induced by cupping may cause a nociceptive stimulus that activates DNICs.

3. Reflex Zone Theory (RZT)-

External manifestations of an internal process can often be detected at a site distal to the affected organ. It is suggested that the principle of a link between one part of the body and another can be understood in terms of interaction of nerve, muscle and chemical pathways.

RZT depends on the premise that signs and symptoms of illness related to one dermatome may be reflected in changes in neighbouring dermatomes.

In cupping therapy, when the diseased organ sends a signal to the skin through the autonomic nerves, the skin responds by becoming tender and painful with swelling. Skin receptors are activated when the cups are applied to the skin. The entire process will result in the increment of the blood circulation and blood supply to the skin and internal organs through the neural connections.

Some other effects of cupping to reduce pain mentioned are-

1. Cupping can induce comfort and relaxation on a systemic level and the resulting increase in endogenous opioid production in the brain leads to improved pain control¹¹.
2. Cupping therapy can significantly lower the number of lymphocytes in the local blood related to the affected area with an increase in the number of neutrophils, which is one of the antiviral mechanisms that reduces the pain scores¹¹.
3. Loss of blood along with vasodilatation tends to increase the parasympathetic activity and relaxes

the body muscles which benefit the patient and could be associated with the after effects of cupping. Furthermore, loss of blood is thought to increase the quality of remaining blood that improves the pain symptoms¹¹.

4. Skin injury during cupping therapy leads to the release of β -endorphin (endogenous analgesic opioid) and adrenocortical hormones in the circulation. Both β -endorphin and adrenocortical hormones could be supportive in blocking inflammation. Skin nerve endings are bathed in collected fluids which may cut their stimulation. On the basis of this, skin injury during cupping has an analgesic outcome by the release of endogenous opioids⁸.
5. Wet cupping is also liable in production of nitric oxide. It may also affect the autonomic nervous system and aid in reducing pain⁸.
6. Emerich et al measured in parallel, the metabolic changes in the tissue under the cupping glass and pressure pain threshold. It was found that cupping is able to increase the lactate/pyruvate ratio after 160 minutes, indicating an anaerobic metabolism in the surrounding tissue with immediate increased pressure

pain thresholds in some areas. After 280 minutes, no further significant changes of pain thresholds are detected⁴.

RESULT-

Cupping therapy is a simple and economic treatment which effectively treated diseases with different aetiology and pathogenesis. It is beneficial to various inflammatory joint disorders including gout and other forms of arthritis.

CONCLUSION-

Cupping therapy is useful in treatment of pain associated with various diseases. Thus cupping therapy carries the potential to improve the quality of life. Cupping therapy mimics an analgesic effect which has minimum side effects and may be considered safe. This review identified some possible mechanisms of cupping therapy based on various theories that explains its diverse effects. No single therapy could explain its full spectrum of effects. However, further clinical studies are required to improve the understanding and potential long term effect of cupping therapy.

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1) Primary suction



2) Scarification



3) Blood letting

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