JoP Journal of Pharmacopuncture

Journal of Pharmacopuncture 2023;26(1):94-98
pISSN: 2093-6966 • eISSN: 2234-6856
https://doi.org/10.3831/KPI.2023.26.1.94

Case Report

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Suggested Integrative Approach for Hand Abscess with Cupping Therapy: a case study

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Received June 17, 2022
Reviewed June 27, 2022
Accepted January 26, 2023

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A forty-three-year-old male patient was diagnosed with an acute abscess in the dorsum of the right hand. On the 5th day of conventional pharmacological therapy the patient was still suffering, and was referred to the Outpatient department (OPD) to evacuate and drain the abscess and treat the edema around the area with Hijama (wet cupping therapy, WCT). The hand abscess was successfully cured within a week using an integrative approach of wet cupping therapy together with conventional drug therapy.

Keywords: hand skin abscess, cupping therapy, wct (wet cupping therapy), hijama, integrative approach

INTRODUCTION

Wet cupping therapy (WCT) is a well-established technique. For example, WCT was used by the ancient Egyptians, who used to suck the poison from snake and scorpion bites, as well as pus from abscesses. Nowadays, it is often used for painful conditions such as musculoskeletal pain and arthritis [1].

Currently, cupping therapy has a several different health benefits, including prophylaxis and the treatment of a variety of diseases around the world. Cupping therapy with a good safety profile has a chequered history and is a well-recognized traditional method for managing a number of medical conditions [2].

Due to the advances in medical research focusing on suppurative inflammation, studies have shown that this inflammation is caused by a weakness in the local immune response, accompanied by invasion of the site by pathogenic bacilli. These pathogens then multiply causing the death of white blood cells (WBCs) which leads to the formation of pus and a pyogenic membrane. In order to maintain the pyogenic membrane and prevent the spread of infection, we believe the safest approach is to suck pus and exudate instead of squeezing the abscess.

Wet cupping fulfils this goal as the vacuum can treat a wider area than a scalpel.

1. History notes

Wet and dry cupping therapy was prescribed by Herodotus, a Greek historian in 400 BC, for the treatment of headaches, loss of appetite, maldigestion, fainting, abscess evacuation, narcolepsy, and several other ailments. Cupping-based remedies for musculoskeletal problems of the back and extremities, gynaecological complaints, pharyngitis, ear ailments, and lung diseases were advocated by Hippocrates (Greece). Cupping therapy is known in Egypt and Arabic countries as "Al-Hijama." In Asia, the Middle East, and Europe, it is an intervention of Asian medicinal systems such as Unani, Ayurveda, Chinese, Tibetan, and Oriental Medicine. Furthermore, cupping therapy is also popular in Europe. For example, up until the 19th century, cupping therapy was commonly employed by monastery practitioners and folk healers in Europe.

2-7 Celsus, a scientist, recommended local cupping for abscesses and to extract poisons from bites from humans, apes,

dogs, wild animals, and snakes. Aretaeus, a scientist in the early second century, utilised both wet and dry cupping to treat uterine prolapse, cholera ileus, and epilepsy, but favored the former. In addition, Galen was a strong supporter of the practice, describing numerous glass, horn, and metal cups. What's more, the theory behind cupping therapy helped develop horn cupping therapy and bamboo jar therapy. Both types of cupping therapy, dry and wet, are popular in the Far East, the Middle East, and Eastern Europe. As a result, the utilisation and development of cupping therapy has a long history [3].

In Islamic history, for the treatment of lower limb abscesses, it was mentioned that WCT (wet cupping therapy) greatly improved the condition of the legs, however, side effects such as fatigue and fainting e.g. vasovagal attacks were not thought to be uncommon [4].

CASE REPORT

(Taibah Technique for Abscess Drainage, TTAD, a brand-new nomenclature).

Case report and Hijama (wet cupping therapy) procedure:

A colleague who is a 43-year-old, non-diabetic male was unwell, but appeared to be sympathetic. A small abscess dorsum of the left hand had rapidly grown to about 8-10 mm in diameter. Ecchymosis had spread to the whole hand, the wrist dorsum, and in addition, he was suffering with ipsilateral acute nonspecific axillary lymphadenitis with constitutional symptoms (Fig. 1). Pharmacological treatment was undergone at the onset of symptoms in the form of:

Augmentin 1,000 mg tab twice daily, Cataflam 50 mg tab twice daily after meals and local Fusidic acid cream.

He was hoping that the abscess would point then rupture spontaneously.

The surgical rule: "once an abscess, you should incise" jumped to my mind!

In order to prevent a hand space infection, a new management plan was agreed upon between myself and the patient. This management plan involved the use of NSAID and injectable antibiotics, in addition to a local antibiotic dressing with Hijama drainage.

The conventional surgical abscess drainage was replaced with wet cupping therapy and suction over the abscess and surrounding area. Furthermore, cups were used around the abscess to relieve reactionary ecchymosis of the hand dorsum.

So, I started:

Dry cupping helps derivation and counterirritation, to detox and decrease the feeling of pain (Chirali [5]) also known as cupping, puncturing and cupping (CPC) (El Sayed [6]).

In dry cupping, the cup is left on the skin for 3-5 minutes, while in wet cupping the cup is left on the skin until nearly half of the cup is filled with blood. If no more blood is being released into the cup, we only wait 3 minutes.

After the skin was prepared appropriately and betadine fumigation was performed, the patient was allowed to come to a comfortable position. The procedure began with dry cupping and with an additional verbal consent to go ahead, the Hijama scarification was carried out (Fig. 2).

A size 15 scalpel blade was utilised to minimise the pain and

Figure 1. Hand abscess first seen.

Figure 2. Preparation by dry cupping after skin wiped with betadine.

trauma, with the goal to create only superficial scratches (about 0.3-0.5 mm) over the area of the abscess. I chose a scratch length of around 3 mm and in a direction parallel to the closest skin crease at the wrist to implement as little change as possible. The area was drained of the pus first, and after cleaning properly I then focused my attention to the skin surrounding the abscess. Initially, the blood extruded was dark and plentiful, and then the volume reduced and it became brighter in colour (Fig. 3).

With this, incision, negative pressure pyogenic sac evacuation and edema (cellulitis) fluid suction with cups around the area were all fulfilled.

The patient was experiencing hand pain, axillary pain, fever and limited movement as (Oswestry Disability Index [ODI] dropped from 25 to 5) [7]. The size of the abscess size and swelling of the hand started to reduce after Day 3 post-treatment.

In the subsequent 2 days, the wound was dressed with suction, and the patient was continuously getting better (Fig. 4). On the 3rd day, signs of first intention healing around the abscess was seen such as crust formation. However, I noticed a whitish mass in the abscess cavity. In order to maintain the pyogenic membrane, a very gentle pressure was applied to the abscess cavity to extrude the abscess nucleus (Fig. 5). The whitish yellow mass was removed, and I applied betadine, H_2O_2 with saline followed by a local antibiotic dressing.

Figure 3. Cups in place after scarification to evacuate then re-applied for decongestion.

Figure 4. Skin colour showing lesser redness and edema, pus could be observed decreasing on daily dressing, extruded pus comes lesser.

Figure 5. Cupping without scratches then applied to the punctum of the abscess in steps.

Figure 6. Next dressing there was no more redness or edema at all with an abscess cavity clean intending to heal from the sides and bottom.

 https://doi.org/10.3831/KPI.2023.26.1.94

As observed in Fig. 6, the skin cure was very close and only required dressing for another few days before healing. All parties, including the sibling of the patient, were extremely happy with the outcome of the treatment.

DISCUSSION

In Islamic history, initially, the morbid material (Pus) was extracted by wet cupping therapy (WCT) Hijama as mentioned in the old medical text in Mulla et al. [8].

In Hijama, the negative pressure inside the cup is transmitted to the underlying connective tissue in the area of the abscess and surrounding area with consequent decongestion and refreshment of local circulation [3].

This allows for better lymphatic drainage and vascularization of the abscess area [9].

To summarise, wet cupping therapy can reduce edema, help perfusion with a subsequent increase in local immunity together with decreasing the bacterial load by draining exudates from the skin and connective tissue [10].

Furthermore, patients with bedsores and underlying muscle spasms could benefit from the use of Hijama on an integrative basis [11, 12].

The concomitant pharmacological therapy given to the patient was also very important in localising infection and hindering local or remote complications. This is an example of an integrative approach.

In some cases, the sole use of wet cupping therapy could solve the problem as an RCT confirmed when no difference in clinical improvement between placebo and antibiotic groups following I&D (incision and drainage), (level I evidence) was reported [13].

An abscess like the one described in this case study with hindered cure can take more than two weeks on conventional therapy to heal and may need operation.

With this integrative approach of adding Hijama this could reduce the healing time to 7-10 days. What's more, the patient initially tried the conventional therapy for around 5 days before being transferred to the OPD with with local ecchymosis, red hot swelling right hand dorsum and ipsilateral acute nonspecific lymphadenitis.

The question as to why WCT (wet cupping therapy) was beneficial in this case may be answered as follows:

- Generally, the causative organism of the abscess is the gram-positive bacteria *Staphylococcus aureus*. This bacterium can cause tissue invasion, destruction and pus formation. The body response is through cellular and humoral immunity, with fibrinogen deposition to hinder its spread. This leads to the formation of a pyogenic membrane around the abscess to localise the battle at that border and prevent the spread of infection.
- The traditional surgical management relies on early incision to drain pus and support local immunity by depriving the organism from colonisation. Incisions with capsule squeezing can produce gaps and tears in the siege capsule which helps the local and general spread of bacteria.
- What Hijama introduces here is evacuation by suction not squeezing. In addition, the removal of blood depletes the local tissue iron which has been proven to be required by *S. aureus* to flourish. WCT removes free iron and therefore greatly hinders colonisation [6, 14, 15].
- Thus, in a patient with a healthy immune response, adopting the integrative approach with antibiotics may not be necessary or a gentler generation of antibiotics can be prescribed.

The patient benefited from the following:

- Accelerated cure after resistance to conventional therapy.
- The integrative approach allowed the continuation of the antibiotic and finish the recommended dose to prevent local and general complications.
- Avoided the need for further surgical intervention and hospital admission.
- Avoided abscess chronicity and cicatrisation disfigurement.
- Saved the patient time and money by rapid cure and coming back earlier to work as cupping improves mobility and blood flow [16].
- More cost effective to the health authority as it would save time and therefore money.

CONCLUSION

Using wet cupping in an acute stage of abscess growth is expected to reduce the congestion around the affected site, delay the spread of infection, ameliorate the circulation and improve local immunity. This then allows a better local concentration of antibiotics due to improved healing. In addition, wet cupping may deprive the causative organism in a certain phase of local tissue iron, which it requires to be viable [6, 14, 15].

If suction by wet cupping can replace squeezing and subsequent rupture of the pyogenic membrane, which can lead to pyaemia abscesses in vulnerable patients with low immunity, it will guarantee better localization of the inflammation and a reduction in cellulitis. My colleagues are invited to investigate its use on carbuncles and deep tissue suppuration esp. with immune deficiency cases or not.

In conclusion, combining WCT Hijama with conventional pharmacological therapy and surgical approach (Integrative Approach) proved here to be more effective in treating an acute skin abscess. However, we look forward to gaining a better understanding through further studies on a larger scale to prove integrative approach efficacy.

ACKNOWLEDGMENT

The authors would like to thank the patient, the attending sister and Al-Bakkari Polyclinic of al Madinah Al Munawarah, KSA.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

FUNDING

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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