

## Clinical efficacy of Wet Cupping therapy in the management of *Raktavrtha Vata* WSR Tennis elbow– A Case Report

Reshma Rajeevan<sup>1\*</sup> Tukaram S. Dudhamal<sup>2</sup>

<sup>1</sup> MS (Ayu) Scholar, <sup>2</sup> Associate Professor & I/C Head, Dept of Shalya Tantra, Institute of Teaching and Research in Ayurveda (Institute of National Importance), Jamnagar, Gujarat, India.

### ABSTRACT:

Tennis elbow or lateral epicondylitis is a painful condition of the elbow caused by overuse. Tennis elbow can be correlated to *Raktavrtha Vata* described under *Vatashonita Adhyaya*. Cupping is a modified *Raktamokshana* procedure. Limited studies have been published on the efficacy of wet cupping therapy in the management of tennis elbow. A 42-year-old female presented complaints of pain, swelling and burning sensation in the lateral aspect of both elbows since past one year. She was unable to hold heavy objects and do household activities like kneading dough, holding vessels, do the dishes, wash clothes etc. There was no history of trauma. She had consulted an orthopaedician and had taken analgesics but got only mild relief. Six sittings of wet cupping therapy were done every fourth day and no oral medications were given alongside. Internal medication (Capsule Ksheerabala 101) was given after the procedure for one month and follow up was done every month for six months. Complete relief from symptoms were achieved after six sittings of wet cupping therapy. No recurrence of symptoms was observed in monthly follow up for six months. Cupping therapy is a cost effective, time saving procedure effective in the management of Tennis elbow with special reference to *Raktavrtha Vata*.

**KEY WORDS:** Ayurveda, Cupping therapy, *Raktamokshana*, *Raktavrtha Vata*, Tennis elbow

Received: 21.07.2022 Revised: 21.08.2022 Accepted: 25.09.2022 Published: 03.10.2022

### Quick Response code



### \*Corresponding Author:

**Dr. Reshma Rajeevan**

MS (Ayu) Scholar, Dept of Shalya Tantra, Institute of Teaching and Research in Ayurveda (Institute of National Importance), Jamnagar, Gujarat, India

E-mail : [reshmacooldoc1994@gmail.com](mailto:reshmacooldoc1994@gmail.com)

### INTRODUCTION:

Tennis elbow (TE) was first used to describe a painful condition at the elbow joint observed in tennis players. It is also known as lateral epicondylitis, which is caused by muscle fatigue and overuse of the common extensor origin (CEO) muscles.<sup>[1-2]</sup> Epicondylitis occurs at least five times more often and predominantly occurs on the lateral rather than on the medial aspect of

the joint, with a 4:1 to 7:1 ratio. The overall prevalence rate of tennis elbow is of 1-3%. The highest incidence is found in young age group and between the ages 40 and 60 years of life. For women, the incidence increases to 10% between the ages of 42 and 46 years.<sup>[3]</sup> This injury is often work-related, any activity involving wrist extension, pronation or supination during manual labour, housework and hobbies are

considered as important causal factors.<sup>[4]</sup> Rest, anti-inflammatory medications, physical therapy, counterforce brace, steroid injections, platelet rich plasma and extra corporeal shock wave lithotripsy (ESWL) are the non-surgical treatments of choice.

Tennis elbow, in this case, can be correlated to *Rakthavrtha Vata* described in *Samhitas* as well as *Sangrahaग्रन्थas*. *Vata dosha* when obstructed by *Rakta dosha*, causes *Daha* (burning sensation) and *Arti* (pain) inside the *Twak* and *Mamsa*, with appearance of *Raga* (redness), *Swayathu* (Swelling) and *Mandala* (patches on the skin).<sup>[5]</sup> Detailed description about the treatment of *Rakthavrtha Vata* has been given by *Acharya Vagbhata* in *Dhatu Avrtha Vata Chikitsa* under *Vatashonita Chikitsa Adhyaya* which says to adopt *Vatashonita Chikitsa* in *Rakthavrtha Vata*.<sup>[6]</sup> *Vatashonita Chikitsa* advises to let out blood in small quantities at many times after *Snehana*.<sup>[7]</sup>

*Raktamokshana* is a parasurgical procedure of letting out impure blood specifically in *Raktaja Rogas*. *Acharya Sushruta* has given detailed description about the procedure as well as its classification in *Sushruta Samhitha*, other forms of which are *Jalouka Avacharana*, *Alabu Avacharna*, *Sringa Avacharana* *Pracchana*, *Siravyadha*. Cupping therapy, a modified *Raktamokshana* procedure, is an ancient alternative medicine, which dates to the ancient Egyptian, Chinese, and Middle Eastern civilizations. According to the traditional Chinese medicine, it is believed that cupping therapy helps to remove blockages in the energy paths and eliminate imbalances in the body by stimulating the free flow of vital energy within its pathways. It is also known as vacuum cupping, hijama cupping, horn treatment etc. It is a practice in which the therapist puts special cups on the skin to create suction. This causes the tissue beneath the cup to be drawn up and swell

causing increase in blood flow to the affected area. Enhanced blood flow under the cups draws impurities and toxins away from the nearby tissues and organs towards the surface for elimination.<sup>[8]</sup>

Limited studies have been published till date on the efficacy of wet cupping therapy in the management of Tennis elbow though many practice it clinically.

### **CASE HISTORY:**

A 42-year-old female came to the OPD of Shalya tantra department, ITRA, Jamnagar, Gujarat, India on 6<sup>th</sup> August 2021 with complaints of severe pain in bilateral elbow with burning sensation and swelling. She was unable to hold heavy objects and do household activities like kneading dough, holding vessels, do the dishes, wash clothes etc. The patient developed pain and burning sensation over the lateral elbow before one year, but did not consult a doctor. Gradually the symptoms got worsened, along with swelling over the lateral elbow with inability to do household activities. She had severe pain while trying to knead dough, open door, while handling simple utensils, washing clothes etc. Following, she consulted an orthopaedician and took medications for the same but got only mild relief. So, she came here for better management. There was no relevant medical history or any history of injury. Medication history showed intake of analgesics and steroid injection. Cupping therapy was planned as the line of treatment. Timeline has been given in Table 1.

### **Examination of the patient:**

General and Systemic examination of the patient was done and were within normal limits. Neck and shoulder joint were evaluated to rule out radiculopathy, shoulder weakness or referred pain. Local

examination of the elbow was done as per OSCE Guidelines (Table 2).<sup>[10]</sup>

### Investigations:

CBC (Complete Blood Count), ESR (Erythrocyte Sedimentation Rate), Auto antibodies (to rule out Inflammatory arthritis). X-Ray of both elbow (AP view) to rule out elbow arthritis. Serological investigations such as HIV, HBsAg, HCV, VDRL were negative. Bleeding time was 2 minutes 5 seconds and Clotting time was 3 minutes 4 seconds.

### THERAPEUTIC INTERVENTION:

Wet cupping therapy was planned as the line of treatment.

Materials required: Surgical gloves, sterilised cupping set, Povidone iodine solution, Surgical needle, sterile cotton balls, Sterile gauze pieces, Bandage

*Poorvakarma* (Pre-operative procedure): The patient was seated comfortably and vitals were measured. The area -Both lateral epicondyles and area of origin of Extensor Carpi Radialis Brevis (ECRB) was cleaned

with Povidone Iodine solution. Properly sterilised appropriate cups were taken.

*Pradhanakarma* (Operative procedure) (Figure 1): Suction was given initially for 10 minutes over both lateral epicondyles and ECRB origin. After 10 minutes, the suction was removed from the cups and multiple pricks were given with needle over the area where cups were placed initially and suction pressure was given again. The cups stayed for about 10 minutes, or until the blood stopped clotting, then the cups were removed, the blood was safely discarded, and the area was cleaned with povidone iodine solution.

*Paschatkarma* (Post-operative procedure): Vitals were measured. Patient was advised to give rest to both hands. Rehabilitation exercises were advised such as wrist flexion, wrist extension, wrist radial deviation strengthening, forearm supination and pronation strengthening. Medicines given post-procedure: Ksheerabala 101<sup>[11]</sup> – Two capsules two times a day with lukewarm water.

**Table 1: Timeline of the study:**

Date	Condition of the patient
Nov-Dec 2020	Developed burning sensation, pain and swelling in the left and right elbow but ignored
March 2021	Symptoms aggravated but did not consult doctor. Managed at home with hot water bath
June 2021	Consulted an orthopaedician, took medicines (Tab. Aceclofenac 100mg+Paracetamol 500mg+Serratiopeptidase 15mg, Tab Etoricoxib 90mg) but got only mild relief
August 2021	Consulted the OPD of Shalya Tantra department
August 6,2021	1 <sup>st</sup> sitting of wet cupping therapy done on bilateral elbows.
August 9,2021	2 <sup>nd</sup> sitting of wet cupping therapy done on bilateral elbows
August 12,2021	3 <sup>rd</sup> sitting of wet cupping therapy done on bilateral elbows
August 15,2021	4 <sup>th</sup> sitting of wet cupping therapy done on bilateral elbows
August 18,2021	5 <sup>th</sup> sitting of wet cupping therapy done on bilateral elbows

August 21,2021	6 <sup>th</sup> sitting of wet cupping therapy done on bilateral elbows
August 22,2021	Advised Ksheerabala 101 – 2 capsules two times a day

**Table 2: Local examination of the elbow (OSCE Guidelines)**

Inspection	Swelling present over the lateral area of elbow surrounding lateral epicondyle.
Palpation	Non-pitting oedema present over the lateral area of elbow surrounding lateral epicondyle Severe tenderness over the lateral epicondyle and area surrounding
ROM	Flexion, Extension, Supination, Pronation (Active and Passive): Within normal limits
Special tests for tennis elbow	Mill's test – Positive Cozen's test – Positive Maudsley's test - -Positive

**Table 3: Assessment criteria**

VAS scale <sup>[24]</sup>	<ul style="list-style-type: none"> <li>0: No pain</li> <li>2: Mild annoying pain</li> <li>4: Nagging uncomfortable troublesome pain</li> <li>6: Distressing miserable pain</li> <li>8: Intense dreadful horrible pain</li> <li>10: Worst possible, unbearable excruciating pain</li> </ul>
Tenderness	<ul style="list-style-type: none"> <li>1: No tenderness</li> <li>2: Patient complains of pain</li> <li>3: Patient complains of pain and winces</li> <li>4: Patient winces and withdraws the hand</li> <li>5: Patient will not allow palpation of the structure</li> </ul>
Burning sensation	<ul style="list-style-type: none"> <li>P: Present</li> <li>A: Absent</li> </ul>

**Table 4: Assessment of result**

Parameters	1 <sup>st</sup> sitting		2 <sup>nd</sup> sitting		3 <sup>rd</sup> sitting		4 <sup>th</sup> sitting		5 <sup>th</sup> sitting		6 <sup>th</sup> sitting	
	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right
Pain (Vas)	3	4	2	3	1	2	0	2	0	1	0	0
Tenderness (Grading)	2	3	1	2	0	2	0	1	0	1	0	0
Burning sensation	P	P	A	P	A	P	A	A	A	A	A	A
Swelling (Girth in cm)	7.5	7.8	7.3	7.6	7.1	7.5	7.1	7.4	7.1	7.3	7.1	7.1



Figure- 1: During procedure

**PROBLEMS WITH YOUR ELBOW**

Tick (✓) one box for every question.

<p><b>1. During the past 4 weeks...</b> Have you had difficulty lifting things in your home, such as putting out the rubbish, because of your elbow problem?</p> <p>No difficulty <input type="checkbox"/> A little bit of difficulty <input type="checkbox"/> Moderate difficulty <input type="checkbox"/> Extreme difficulty <input checked="" type="checkbox"/> Impossible to do <input type="checkbox"/></p>	<p><b>7. During the past 4 weeks...</b> Have you been troubled by pain from your elbow in bed at night?</p> <p>Not at all <input type="checkbox"/> 1 or 2 nights <input type="checkbox"/> Some nights <input checked="" type="checkbox"/> Most nights <input type="checkbox"/> Every night <input type="checkbox"/></p>
<p><b>2. During the past 4 weeks...</b> Have you had difficulty carrying bags of shopping, because of your elbow problem?</p> <p>No difficulty <input type="checkbox"/> A little bit of difficulty <input type="checkbox"/> Moderate difficulty <input type="checkbox"/> Extreme difficulty <input checked="" type="checkbox"/> Impossible to do <input type="checkbox"/></p>	<p><b>8. During the past 4 weeks...</b> How often has your elbow pain interfered with your sleeping?</p> <p>Not at all <input type="checkbox"/> Occasionally <input type="checkbox"/> Some of the time <input checked="" type="checkbox"/> Most of the time <input type="checkbox"/> All of the time <input type="checkbox"/></p>
<p><b>3. During the past 4 weeks...</b> Have you had any difficulty washing yourself all over, because of your elbow problem?</p> <p>No difficulty <input type="checkbox"/> A little bit of difficulty <input type="checkbox"/> Moderate difficulty <input checked="" type="checkbox"/> Extreme difficulty <input type="checkbox"/> Impossible to do <input type="checkbox"/></p>	<p><b>9. During the past 4 weeks...</b> How much has your elbow problem interfered with your usual work or everyday activities?</p> <p>Not at all <input type="checkbox"/> A little bit <input type="checkbox"/> Moderately <input type="checkbox"/> Greatly <input checked="" type="checkbox"/> Totally <input type="checkbox"/></p>
<p><b>4. During the past 4 weeks...</b> Have you had any difficulty dressing yourself, because of your elbow problem?</p> <p>No difficulty <input type="checkbox"/> A little bit of difficulty <input checked="" type="checkbox"/> Moderate difficulty <input type="checkbox"/> Extreme difficulty <input type="checkbox"/> Impossible to do <input type="checkbox"/></p>	<p><b>10. During the past 4 weeks...</b> Has your elbow problem limited your ability to take part in leisure activities that you enjoy doing?</p> <p>No, not at all <input type="checkbox"/> Occasionally <input checked="" type="checkbox"/> Some of the time <input type="checkbox"/> Most of the time <input type="checkbox"/> All of the time <input type="checkbox"/></p>
<p><b>5. During the past 4 weeks...</b> Have you felt that your elbow problem is "controlling your life"?</p> <p>No, not at all <input type="checkbox"/> Occasionally <input type="checkbox"/> Some days <input checked="" type="checkbox"/> Most days <input type="checkbox"/> Every day <input type="checkbox"/></p>	<p><b>11. During the past 4 weeks...</b> How would you describe the worst pain you have from your elbow?</p> <p>No pain <input type="checkbox"/> Mild pain <input type="checkbox"/> Moderate pain <input type="checkbox"/> Severe pain <input checked="" type="checkbox"/> Unbearable <input type="checkbox"/></p>
<p><b>6. During the past 4 weeks...</b> How much has your elbow problem been "on your mind"?</p> <p>Not at all <input type="checkbox"/> A little of the time <input type="checkbox"/> Some of the time <input type="checkbox"/> Most of the time <input checked="" type="checkbox"/> All of the time <input type="checkbox"/></p>	<p><b>12. During the past 4 weeks...</b> How would you describe the pain you usually have from your elbow?</p> <p>No pain <input type="checkbox"/> Mild pain <input type="checkbox"/> Moderate pain <input type="checkbox"/> Severe pain <input checked="" type="checkbox"/> Unbearable <input type="checkbox"/></p>

Finally, please check back that you have answered each question.  
Thank you very much.

© Jia Innovation Limited, 1998. All rights reserved. Oxford Elbow Score - English for the United Kingdom 2 / 3

© Jia Innovation Limited, 1998. All rights reserved. Oxford Elbow Score - English for the United Kingdom 3 / 3

Figure- 2: Oxford elbow scoring before treatment



**PROBLEMS WITH YOUR ELBOW**

Tick (✓) one box for every question.

1. During the past 4 weeks... Have you had difficulty lifting things in your home, such as putting out the rubbish, because of your elbow problem?

2. During the past 4 weeks... Have you had difficulty carrying bags of shopping, because of your elbow problem?

3. During the past 4 weeks... Have you had any difficulty washing yourself all over, because of your elbow problem?

4. During the past 4 weeks... Have you had any difficulty dressing yourself, because of your elbow problem?

5. During the past 4 weeks... Have you felt that your elbow problem is "controlling your life"?

6. During the past 4 weeks... How much has your elbow problem been "on your mind"?

7. During the past 4 weeks... Have you been troubled by pain from your elbow in bed at night?

8. During the past 4 weeks... How often has your elbow pain interfered with your sleeping?

9. During the past 4 weeks... How much has your elbow problem interfered with your usual work or everyday activities?

10. During the past 4 weeks... Has your elbow problem limited your ability to take part in leisure activities that you enjoy doing?

11. During the past 4 weeks... How would you describe the worst pain you have from your elbow?

12. During the past 4 weeks... How would you describe the pain you usually have from your elbow?

Finally, please check back that you have answered each question.  
Thank you very much.

Figure- 3: Oxford elbow scoring after treatment

## RESULT AND DISCUSSION:

Complete relief from symptoms such as pain, swelling, burning sensation, poor grip strength was achieved after 6 sittings of wet cupping therapy with no internal medications. Assessment criteria has been given in Table 3 and assessment of result has been given in Table 4. Post procedure, Ksheerabala 101 capsule was given for tendon rejuvenation and follow up every month for six months with no recurrence reported. Oxford Elbow Scoring was done before (Figure 2) and after (Figure 3) the study.

In the present case, *Ativyayama* (Repeated household works), *Divaswapna* (sleeping during day time), regular consumption of *Dadhi*(curd), pickles, wafers, chinese foods has led to *Margaavarana* of *Vata* by *Rakta* and its *Sthanasamsraya* (localisation) in the extensor tendons of the *Kurpara sandhi*

causing *Arti* (pain), *Shwayathu* (swelling), *Daha* (burning sensation). As given in the treatment of *Rakthavvrtha Vata*, six sittings of wet cupping therapy were done. In this study, six sittings of wet cupping were done during the study period. Two cups were placed on either elbow. The cups were suctioned for 10 minutes before pricking the skin. This matches with Stephens et al. 2020 study, which concluded that the 10-minute cupping therapy effectively reduces pain and increases total haemoglobin level immediately in cases of non-specific neck pain in one session.<sup>[12]</sup> Also, Cramer et al. 2011 stated that applying cupping therapy for 10 minutes reduced pain and improved function after 14 days in patients with neck pain.<sup>[13]</sup> Lauche et al. 2011 found that the degree of pain and functional deficit improved after suctioning the area for 10 minutes every four days.<sup>[14]</sup>

Chen, 2009 mentioned that wet cupping therapy improved shoulder joint mobility and reduced pain intensity in patients with scapulo-humeral periarthrititis after 60 days.<sup>[15]</sup> Also, Michalsen et al. 2009 reported that pain and functional impairment improved in carpal tunnel syndrome patients after treatment with wet cupping therapy for one session.<sup>[16]</sup> Ouyang et al. 2001 stated that the degree of pain changed after wet cupping therapy after a 10-minute treatment around the shoulder joint in patients with shoulder pain after 4 weeks of application.<sup>[17]</sup> Peichang et al. 2014 reported that 10 minutes after the removal of the cups, the skin temperature was elevated in the suctioned area compared to the control area.<sup>[18]</sup> Kadhim, 2012 showed that there was a feeling of warmth immediately after cupping therapy on the surface of the skin.<sup>[19]</sup> Similarly, Wei et al. 2013 showed that blood circulation increased immediately to the surface of the skin following the removal of the cups in healthy participants.<sup>[20]</sup> Also, Tae-Hun et al. 2012 found that six sessions of wet cupping therapy can reduce pain and increase range of motion compared to a heating pad in patients with neck pain.<sup>[21]</sup>

Probable mode of action of cupping therapy: Cupping therapy improves the circulation around the areas of pain and spasm. Increased microcirculation due to vasodilation at the cupping site strengthens the metabolism and allows faster elimination of substances that causes pain and spasm, leading to progressive relaxation of the muscles. It reduces the musculofascial spasm and relieves painful muscle tension and creates an inflammatory response and thereby promotes healing. Also, the negative pressure that is applied by the cups to the surface of the skin results in bruising around the suction area, which attracts macrophages that act on the phagocytosis of the red blood cells and

activate them to produce heme oxygenase-1 for the heme metabolism it contains. Heme Oxygenase-1 breaks down heme into carbon monoxide, biliverdin/bilirubin, and iron, which in turn aids in antioxidant, inflammatory, and anti-proliferative activities.<sup>[22,23]</sup>

Probable mode of action of Ksheerabala101 capsule: Ksheerabala 101 rejuvenates the tendon. *Bala moola* (roots of *Sida cordifolia*) has anti-inflammatory, analgesic as well as *Brmhana* (nourishing) action. *Go ksheera* (cow's milk) contains all the elements necessary for the growth and nutrition of bones, nerves, muscles and other tissues of the human body. *Tilataila* (sesame oil) nourishes and strengthens all *Dhatu*s.

#### CONCLUSION:

Cupping therapy, a modified *Raktamokshana* procedure is effective in relieving the symptoms of tennis elbow and helps to augment the functioning of elbow joint by letting out the impure blood leading to increased microcirculation over the affected site.

**Future scope of study:** Dynamometer can be used to assess the grip strength. The same protocol can be tried in a greater number of cases for its validation in tennis elbow.

**Adverse Drug Reaction:** No ADR was reported during and after the course of treatment.

#### ACKNOWLEDGEMENT:

Director Prof. AB Thakar, Institute of Teaching and Research in Ayurveda, Jamnagar, Gujarat for providing all facilities in the Department of Shalya Tantra to carry out the procedures.

**REFERENCES:**

1. Smidt N, Lewis M, VAN DER Windt DA, Hay EM, Bouter LM, Croft P. Lateral epicondylitis in general practice: course and prognostic indicators of outcome. *J Rheumatol.* 2006 ;33(10):2053-59.
2. Assendelft W, Green S, Buchbinder R, Struijs P, Smidt N. Tennis elbow. *BMJ.* 2003;327(7410):329.
3. Nirschl RP. Tennis elbow. *Orthop Clin North Am.* 1973 Jul;4(3):787-800.
4. Van Rijn RM, Huisstede BM, Koes BW, Burdorf A. Associations between work-related factors and specific disorders at the elbow: a systematic literature review. *Rheumatology (Oxford).* 2009;48(5):528-36.
5. Srikantha Murthy KR. Astangahrdaya Nidana sthana 16/33, Chaukambha Krishnadas Academy, Varanasi, reprint 2013. P-165
6. Srikantha Murthy KR. AstangahrdayaChikitsasthana 22/59, Chaukambha Krishnadas Academy, Varanasi, reprint 2013. P-523
7. Prof. K. R. Srikantha Murthy, AstangahrdayaChikitsasthana 22/1, Chaukambha Krishnadas Academy, Varanasi, reprint 2013. Page no.513
8. <https://www.webmd.com/balance/guide/cupping-therapy> (Last accessed on 12-07-2022)
9. Mehta P, Dhapte V. Cupping therapy: A prudent remedy for a plethora of medical ailments. *J Tradit Complement Med.* 2015;5(3):127-34.
10. Zayyan M. Objective structured clinical examination: the assessment of choice. *Oman Med J.* 2011;26(4):219-22.
11. Srikantha Murthy KR. Astangahrdayam Chikitsasthana 22/45-46, Chaukambha Krishnadas Academy, Varanasi, reprint 2013. P-521
12. Stephens SL, Selkow NM, Hoffman NL. Dry Cupping Therapy for Improving Nonspecific Neck Pain and Subcutaneous Hemodynamics. *J Athl Train.* 2020;55(7):682-690.
13. Cramer H, Lauche R, Hohmann C, Choi KE, Rampp T, Musial F, Langhorst J, Dobos G. Randomized controlled trial of pulsating cupping (pneumatic pulsation therapy) for chronic neck pain. *Forsch Komplementmed.* 2011;18(6):327-34.
14. Lauche R, Cramer H, Choi KE, Rampp T, Saha FJ, Dobos GJ, Musial F. The influence of a series of five dry cupping treatments on pain and mechanical thresholds in patients with chronic non-specific neck pain--a randomised controlled pilot study. *BMC Complement Altern Med.* 2011; 11:63.
15. Chen JJ. Clinical observation of therapeutic effect of combination of electro-acupuncture and wet cupping therapy for scapulohumeral periarthritis [in Chinese]. *JCAM.* 2009;25(1):27-28.
16. Michalsen A, Bock S, Lüdtke R, Rampp T, Baecker M, Bachmann J, Langhorst J, Musial F, Dobos GJ. Effects of traditional cupping therapy in patients with carpal tunnel syndrome: a randomized controlled trial. *J Pain.* 2009;10(6):601-8.
17. Ouyang Q, He Y, Zhao D, et al. Comparative observation effect of cupping with bloodletting on the pain of shoulder in patients with hemiplegia. *Chin J Rehabil Med.* 2001;16:361e363.
18. Pei-chang XU, Shu-li CUI, Derrik Aw Chen Wee, Sheng XU, Lee Tat Leang. Preliminary observation on effect of cupping on the skin surface temperature of patients with back pain," *World Journal of Acupuncture Moxibustion.* 2014;24(4):59-61.
19. Kadhim Qasim Ali Al-Rubaye. The clinical and histological skin changes after the cupping therapy (Al-Hijamah).



- Journal of the Turkish Academy of Dermatology, 2012; 6(1):1-7.
20. Wei LIU, Sheng-ai PIAO, Xiang-wen MENG, Lianhai WEI. Effects of cupping on blood flow under skin of back in healthy human," World Journal of Acupuncture-Moxibustion. 2013; 23(3):50-52.
21. Tae-Hun Kim Jung et al. Cupping for treating neck pain in video display terminal (VDT) users: a randomized controlled pilot trial," Journal of Occupational Health. 2012; 54(6): 416-426.
22. Motterlini R, Foresti R. Heme oxygenase-1 as a target for drug discovery. Antioxid Redox Signal. 2014 ;20(11):1810-26.
23. Lever JM, Boddu R, George JF, Agarwal A. Heme Oxygenase-1 in Kidney Health and Disease. Antioxid Redox Signal. 2016 25(3):165-83.
- CONFLICT OF INTEREST:** Author declares that there is no conflict of interest.
- GUARANTOR:** Corresponding author is guarantor of this article and its contents.
- SOURCE OF SUPPORT:** None
- HOW TO CITE THIS ARTICLE:**  
Reshma R, Dudhamal TS. Clinical efficacy of Wet Cupping therapy in the management of *Raktavrtha Vata* WSR Tennis elbow- A case report. Int. J. AYUSH CaRe. 2022; 6(3):252-260.