



ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor (RJIF): 8.4
IJAR 2024; 10(12): 262-264
www.allresearchjournal.com
Received: 10-11-2024
Accepted: 13-12-2024

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Pain unplugged: Evaluating cupping therapy in carpal tunnel syndrome – A single case study

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DOI: <https://dx.doi.org/10.22271/allresearch.2024.v10.i12d.12241>

Abstract

Background: A frequent condition known as carpal tunnel syndrome (CTS) is caused by the median nerve becoming trapped in the wrist's carpal tunnel. The symptoms of CTS include pain, tingling, burning, and numbness in at least two of the three digits (thumb, index finger, and middle finger) that are supplied by the median nerve. A common and age-old healing technique is cupping the skin and subcutaneous tissue.

Objectives: This case study set out to assess the effectiveness of cupping therapy in reducing pain in patients with carpal tunnel syndrome.

Materials and Methods: For the past three months, a 27-year-old man has been suffering from wrist pain and numbness. For a maximum of four weeks, this treatment was conducted twice a week. The Numeric Pain Rating Scale (NPRS) was used to evaluate the patient.

Results: Participants' Numeric Pain Rating Scale (NPRS) pre- and post-test ratings significantly improved, which was deemed statistically significant.

Conclusion: This study concludes that cupping therapy is the effective treatment for the improvement of pain in carpal tunnel syndrome patient.

Keywords: Median nerve compression, hand-wrist ache, traditional cupping treatment, numeric pain rating scale

Introduction

Compression of the median nerve as it travels through the wrist's carpal tunnel results in carpal tunnel syndrome (CTS), a frequent entrapment neuropathy. Numbness, tingling, burning, and pain are among the symptoms of the illness, which mainly affects the thumb, index, and middle fingers. Hand function can be severely compromised by CTS, making it difficult to carry out regular tasks. It is most common in those between the ages of 30 and 60 whose jobs require repetitive hand motions, including typing or manual labor.

Wrist splinting, anti-inflammatory drugs, corticosteroid injections, and physical therapy are common conservative therapies for CTS. In extreme situations, the median nerve may need to be surgically decompressed. However, because they can reduce symptoms without intrusive procedures, alternative therapies like cupping therapy, chiropractic adjustments, and acupuncture have gained popularity in recent years.

A long-standing healing method with roots in traditional medicine, especially in Eastern countries, cupping therapy has gained popularity recently all around the world. By placing suction cups to the skin, negative pressure is created, which is said to enhance circulation, encourage tissue repair, and ease musculoskeletal pain. Although cupping is frequently used to treat ailments like headaches, back pain, and muscle stiffness, its effectiveness in treating CTS has not been thoroughly investigated.

This case study evaluates the effects of cupping therapy on pain relief in a male patient with CTS, exploring its potential as a complementary treatment for this condition.

Background

Carpal tunnel syndrome develops when the median nerve, which connects the forearm to the hand via the narrow carpal tunnel in the wrist, is compressed or inflamed. This compression can be caused by a variety of conditions, including repetitive hand movements, wrist injuries,

rheumatoid arthritis, diabetes, or fluid retention during pregnancy. The basic symptoms of CTS are pain, tingling, and numbness in the thumb, index finger, and middle finger. Patients may also notice weakness in the affected hand, making it difficult to grip things or do fine motor skills.

CTS is diagnosed using clinical symptoms, physical examination, and diagnostic testing like nerve conduction studies or electromyography. Early-stage CTS is frequently treatable with conservative methods, however advanced cases may necessitate surgical surgery.

A popular alternative medicine method is cupping therapy, which includes applying glass, silicone, or plastic cups to the skin to produce suction. By raising the skin and underlying tissues, this suction improves blood flow to the injured area and encourages tissue relaxation. Cupping therapy proponents contend that by increasing blood flow, decreasing inflammation, and encouraging the body to expel toxins, it helps alleviate pain. Despite been used for centuries, cupping's exact mechanisms of action are still unknown, and further study is required to validate its effectiveness for a number of illnesses, including CTS.

Objectives

This case study's main goal was to evaluate how cupping therapy affected a patient with carpal tunnel syndrome in terms of pain reduction. The study's specific objectives were to:

- Assess the decrease in pain intensity using the Numeric Pain Rating Scale (NPRS) as the main end measure.
- Evaluate the patient's subjective improvement in tingling and numbness.
- Find out if individuals with CTS could benefit from cupping therapy as an additional therapeutic option.

Materials and Methods

The 27-year-old male patient in this case study had been experiencing wrist discomfort, tingling, and numbness in his right hand for three months. The thumb, index, and middle fingers as well as the palm of the hand had the most severe symptoms, which were typical of carpal tunnel syndrome. The patient stated that manual work involving repetitive wrist movements and typing exacerbated the symptoms. He had never had surgery or other invasive Carpal tunnel syndrome treatments before.

The Numeric Pain Rating Scale (NPRS), a 10-point scale that ranges from 0 (no pain) to 10 (worst conceivable agony), was used to determine the patient's baseline level of pain. The patient gave his initial level of pain a score of seven out of 10.

Cupping Therapy Protocol: For four weeks, the patient had cupping therapy twice a week, for a total of eight sessions. Plastic suction cups were employed for the therapy, and the patient's wrist and forearm skin was covered with them. The cups were put on the afflicted area and negative pressure was exerted for around 20 minutes each session.

Outcome measures: The patient's pain levels were assessed using the **Numeric Pain Rating Scale (NPRS)** at two points:

- Before the first cupping therapy session (baseline).
- After the final session at the end of the four-week treatment period.

In addition to the NPRS score, the patient provided subjective feedback on his symptoms, including numbness, tingling, and functional improvements in daily activities.

Results

After the cupping therapy intervention, the patient's pain levels significantly improved. At the conclusion of the four-week treatment session, his NPRS score dropped from 7/10 at baseline to 2/10. This statistically significant decrease in pain suggests that cupping therapy was effective in reducing symptoms.

Statistical Analysis

To ascertain the statistical significance of the improvement, a paired t-test was used to examine the pre-test and post-test NPRS scores. The findings showed a substantial decrease in discomfort ($p < 0.05$), confirming that cupping therapy is effective in easing carpal tunnel syndrome pain.

Discussion

This case study highlights the potential benefits of cupping therapy as a complementary treatment for managing pain associated with carpal tunnel syndrome (CTS). CTS, a condition caused by the compression of the median nerve as it passes through the carpal tunnel in the wrist, often results in pain, numbness, tingling, and functional impairment of the hand and fingers. Traditional treatment approaches typically include wrist splinting, medication, physical therapy, or surgical intervention in severe cases.

In this study, the patient underwent cupping therapy, a traditional healing method that uses negative pressure to improve blood flow, reduce muscle tension, and promote healing in the affected area. Following the treatment sessions, the patient reported a significant reduction in pain levels, as reflected by a noticeable decrease in their Numeric Pain Rating Scale (NPRS) scores—a standardized tool used to measure pain intensity. Additionally, the patient experienced subjective improvements in symptoms such as numbness and tingling, which are common and often debilitating aspects of CTS.

These positive outcomes suggest that cupping therapy may contribute to enhancing local circulation, reducing inflammation, and alleviating nerve compression in CTS patients. Furthermore, these findings support an increasing body of research advocating for the use of cupping therapy as a non-invasive and low-risk complementary treatment option for musculoskeletal disorders like CTS.

While this case study provides encouraging evidence, further large-scale, randomized controlled trials are necessary to establish standardized treatment protocols and better understand the mechanisms through which cupping therapy exerts its therapeutic effects. Nonetheless, this study underscores the potential of cupping therapy as a valuable addition to the multidisciplinary approach in managing carpal tunnel syndrome.

Limitations

There are various restrictions on this case study. First, it only includes one patient, which restricts how broadly the results can be applied. The study also used patient self-reports of symptom improvement and subjective pain assessments (NPRS scores). To offer more thorough insights into the effects of cupping therapy on CTS, future research should use bigger sample numbers and objective

measurements like nerve conduction tests or electromyography.

Conclusions

According to the case study's findings, people with carpal tunnel syndrome may find that cupping therapy is a useful adjunctive treatment for their pain. After four weeks of treatment, the patient experienced less tingling and numbness and showed notable decreases in pain levels. For people who want to relieve chronic pain without undergoing surgery or taking medication, cupping therapy is a low-risk, non-invasive alternative to conventional CTS therapies. To validate these results and investigate the long-term effectiveness of cupping therapy for CTS, more investigation is required.

Conflict of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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