



## RESEARCH ARTICLE

### EFFECT OF STRUCTURED NATUROPATHIC TREATMENT ON PAIN AND SIZE REDUCTION IN A GANGLION CYST: A CASE STUDY

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#### ABSTRACT

**Background:** Ganglion cysts are common benign soft tissue swellings of the hand and wrist arising from joint capsules or tendon sheaths. They may cause pain, localized swelling, cosmetic concerns, and restricted joint movement. Non-invasive treatment approaches are increasingly being explored as alternatives to surgical management. Naturopathic hydrotherapy techniques, including thermotherapy and contrast applications, may enhance local circulation, reduce inflammation, and promote tissue healing. **Objective:** To evaluate the effect of a structured naturopathic hydrotherapy intervention on ganglion cyst size and pain intensity in a patient with a wrist ganglion cyst. **Methods:** A single-case study was conducted using a 15 days naturopathic treatment protocol comprising warm oil application, infrared radiation (IRR), hot compress, and immediate cold affusion. The intervention protocol was implemented every day for a duration of 20 minutes. Outcome measures included cyst dimensions (length × width × depth), calculated cyst volume (cm<sup>3</sup>), and pain intensity assessed using the Visual Analog Scale (VAS). We collected daily measurements throughout the intervention to monitor ongoing structural and symptomatic changes. **Results:** Progressive reduction in cyst size was observed over the 15-day treatment period. Initial cyst dimensions of 2.2 × 1.8 × 1.5 cm decreased to 1.2 × 0.8 × 0.6 cm. Correspondingly, cyst volume decreased from 3.08 cm<sup>3</sup> at baseline to 0.29 cm<sup>3</sup> following treatment, representing an overall reduction of approximately 90.6%. Pain scores fluctuated during the intervention but demonstrated an overall trend toward symptomatic improvement. **Conclusion:** Structured naturopathic hydrotherapy was associated with substantial reduction in ganglion cyst volume and improvement in pain symptoms. Further controlled studies with larger sample sizes and long-term follow-up are warranted to validate these preliminary findings.

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## INTRODUCTION

Ganglion cysts are the most common benign soft tissue tumors of the hand and wrist, accounting for approximately 50–70% of all soft tissue masses in this region. They are mucin-filled cystic lesions that arise from joint capsules, ligaments, or tendon sheaths and are most frequently located on the dorsal aspect of the wrist. Although benign in nature, ganglion cysts can cause pain, localized swelling, discomfort, cosmetic concerns, and limitation of joint movement, thereby affecting daily activities and quality of life

(Head *et al.*, 2015). Naturopathic interventions, particularly thermotherapy and hydrotherapy, are based on principles aimed at enhancing local circulation, reducing inflammation, improving lymphatic drainage, and facilitating tissue healing. Contrast hydrotherapy, which involves the alternating application of heat and cold, is believed to stimulate vascular responses and metabolic activity within affected tissues. These physiological effects may contribute to the reduction of edema and cystic swelling while alleviating associated pain and discomfort (Moor *et al.*, 2013). The present study aims to

evaluate the effectiveness of a structured naturopathic treatment protocol consisting of warm oil application, infrared radiation, hot compress, and cold affusion in reducing cyst size and pain in a patient with a wrist ganglion cyst.

METHODOLOGY

**Study Design:** This study employed a single-case experimental design to evaluate the effectiveness of a structured naturopathic hydrotherapy intervention in the management of a wrist ganglion cyst. The intervention was administered over a period of 15 consecutive days, and changes in cyst size and pain intensity were assessed throughout the treatment period.

**Participant:** A patient diagnosed with a wrist ganglion cyst presenting with localized swelling and pain was included in the study. Informed consent was obtained from the participant prior to the commencement of the intervention.

**Intervention Protocol:** The naturopathic treatment protocol consisted of warm oil application, infrared radiation (IRR), hot compress, and immediate cold affusion. The intervention schedule consisted of one 20-minute session per day over a 15-day continuous period. The intervention was designed to enhance local circulation, promote lymphatic drainage, reduce inflammation, and facilitate tissue healing through alternating thermal stimulation.

**Outcome Measures:** The primary outcome measure was cyst size, assessed by measuring the length, width, and depth of the cyst using standard clinical methods. Cyst volume (cm³) was calculated using the measured dimensions. The secondary outcome measure was pain intensity, assessed using the Visual Analog Scale (VAS), a validated tool for measuring subjective pain perception.

**Data Collection and Analysis:** Baseline measurements were recorded before initiation of the intervention. Subsequently, cyst dimensions and VAS pain scores were documented daily throughout the 15-day treatment period. Changes in cyst volume and pain intensity were analyzed descriptively to evaluate structural and symptomatic improvements associated with the intervention.

INTERVENTION

The described intervention represents a structured 15-day naturopathic regimen used as supportive care in a case of ganglion cyst. Applying warm oil, IRR, a hot compress immediately cold affusion is for 20 minutes. The treatment was used for 15 consecutive days. These practices are aimed at reducing ganglion cyst.

Table 1. Shows the treatment interventions

| Days | Treatment                                             | Duration |
|------|-------------------------------------------------------|----------|
| 1    | Warm oil +IRR+ Hot compress immediately cold affusion | 20 mnts  |
| 2    | Warm oil +IRR+ Hot compress immediately cold affusion | 20 mnts  |
| 3    | Warm oil +IRR+ Hot compress immediately cold affusion | 20 mnts  |
| 4    | Warm oil +IRR+ Hot compress immediately cold affusion | 20 mnts  |
|      | Warm oil +IRR+ Hot compress immediately               | 20 mnts  |

|    |                                                       |         |
|----|-------------------------------------------------------|---------|
| 5  | cold affusion                                         |         |
| 6  | Warm oil +IRR+ Hot compress immediately cold affusion | 20 mnts |
| 7  | Warm oil +IRR+ Hot compress immediately cold affusion | 20 mnts |
| 8  | Warm oil +IRR+ Hot compress immediately cold affusion | 20 mnts |
| 9  | Warm oil +IRR+ Hot compress immediately cold affusion | 20 mnts |
| 10 | Warm oil +IRR+ Hot compress immediately cold affusion | 20 mnts |
| 11 | Warm oil +IRR+ Hot compress immediately cold affusion | 20 mnts |
| 12 | Warm oil +IRR+ Hot compress immediately cold affusion | 20 mnts |
| 13 | Warm oil +IRR+ Hot compress immediately cold affusion | 20 mnts |
| 14 | Warm oil +IRR+ Hot compress immediately cold affusion | 20 mnts |
| 15 | Warm oil +IRR+ Hot compress immediately cold affusion | 20 mnts |

**Outcome Measures:** Cyst dimensions (Length × Width × Depth in cm) Volume (cm³), calculated using standard approximation Pain assessment using Visual Analog Scale (VAS)

RESULTS

The ganglion cyst dimensions were monitored over a 15-day treatment period, demonstrating a consistent and progressive reduction in size. Initially, the cyst measured 2.2 × 1.8 × 1.5 cm, which gradually decreased to 1.2 × 0.8 × 0.6 cm by day 15.

Table 2. Shows the ganglion cyst size

| Days | Length(L)x Width(W) (cm) | Depth(D) (cm) |
|------|--------------------------|---------------|
| 1    | 2.2 x 1.8                | 1.5           |
| 2    | 2.2 x 1.8                | 1.5           |
| 3    | 2.2 x 1.8                | 1.5           |
| 4    | 2 x 1.6                  | 1.3           |
| 5    | 2 x 1.6                  | 1.3           |
| 6    | 1.7 x 1.6                | 1.3           |
| 7    | 1.7 x 1.6                | 1.1           |
| 8    | 1.5 x 1.5                | 1             |
| 9    | 1.5 x 1.5                | 1             |
| 10   | 1.5 x 1.3                | 1             |
| 11   | 1.3 x 1.3                | 0.8           |
| 12   | 1.3 x 1.1                | 0.8           |
| 13   | 1.3x 1                   | 0.7           |
| 14   | 1.2x 0.9                 | 0.6           |
| 15   | 1.2x 0.8                 | 0.6           |

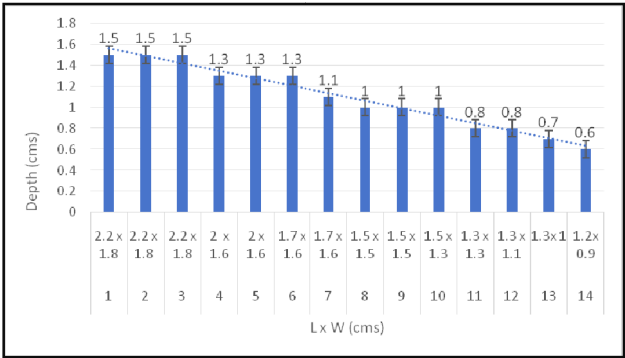


Fig. 1. Shows the graph of ganglion cyst size

**Cyst Volume Reduction:** The calculated cyst volume showed a marked decline from 3.08 cm³ on day 1 to 0.29 cm³ on day 15, representing an overall reduction of approximately 90.6%.

The reduction trend was steady, with minor plateaus observed between days 1–3 and days 8–9, followed by continued decline thereafter.

Table 3. Shows the ganglion cyst volume

| Days | Volume (cm <sup>3</sup> ) |
|------|---------------------------|
| 1    | 3.08                      |
| 2    | 3.08                      |
| 3    | 3.08                      |
| 4    | 2.16                      |
| 5    | 2.16                      |
| 6    | 1.83                      |
| 7    | 1.55                      |
| 8    | 1.17                      |
| 9    | 1.17                      |
| 10   | 1.01                      |
| 11   | 0.70                      |
| 12   | 0.59                      |
| 13   | 0.47                      |
| 14   | 0.33                      |
| 15   | 0.29                      |

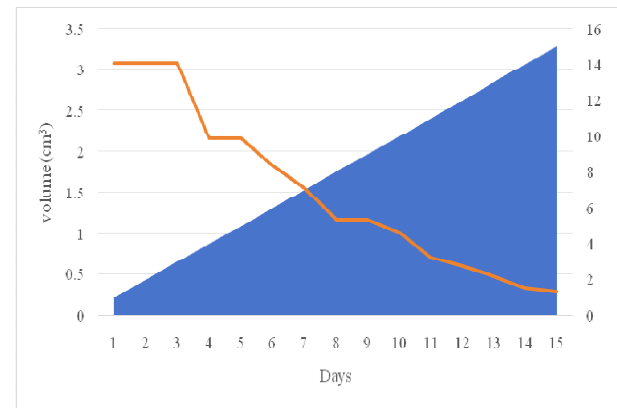


Fig.2. shows the graph of volume (cm<sup>3</sup>)

**Volume Reduction:** A substantial reduction in cyst volume was observed over the 15-day treatment period, decreasing from 3.08 cm<sup>3</sup> at baseline (day 1) to 0.29 cm<sup>3</sup> by day 15, corresponding to an overall reduction of approximately 90.6%, indicating a marked therapeutic response.

**Reduction** =  $(3.08 - 0.29) / 3.08 \times 100 = 90.58\%$

**Pain Scale:** The pain progressively improved from severe in the early phase to moderate in the mid-phase and eventually to mild in the later phase of recovery.

Table 4. Shows the VAS

| Days | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
| PS   | 8 | 8 | 8 | 7 | 7 | 5 | 5 | 5 | 5 | 5  | 3  | 3  | 3  | 2  | 2  |

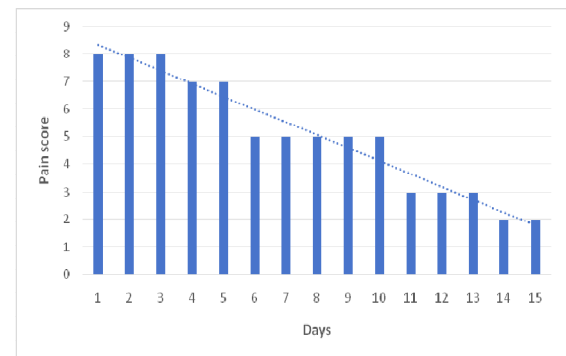


Fig. 3. Shows the graph of pain

## DISCUSSION

The present case study evaluated the effect of a structured naturopathic intervention comprising warm oil application, infrared radiation (IRR), hot compress, and immediate cold affusion on the size and pain intensity of a ganglion cyst over a 15-day period. The findings demonstrated a consistent reduction in cyst dimensions, a marked decrease in calculated volume, and a progressive improvement in pain scores as measured by the Visual Analog Scale (VAS).A significant reduction in cyst volume was observed from 3.08 cm<sup>3</sup> at baseline to 0.29 cm<sup>3</sup> on day 15, representing an overall decrease of approximately 90.6%. This substantial reduction suggests a potential therapeutic effect of the applied naturopathic modalities in influencing cystic fluid dynamics and soft tissue response. The gradual decline in size, with minor plateaus observed during the early and mid-intervention phases, may reflect physiological adaptation periods before sustained resorption and drainage processes became more prominent.

Pain assessment using the VAS further supported clinical improvement. Despite this variability, the overall trend demonstrated a clear reduction in pain scores toward the later stages of the intervention, corresponding with the reduction in cyst size.The observed therapeutic response may be explained by the physiological effects of the interventions used. Warm oil application and infrared radiation are known to enhance local blood circulation and tissue metabolism, while hot compresses may promote vasodilation and relaxation of surrounding soft tissues. The immediate cold affusion following heat exposure may induce vascular pumping effects, potentially improving lymphatic drainage and reducing localized edema. Together, these hydrothermal contrasts may have contributed to improved fluid resorption and decreased pressure within the cystic structure. However, it is important to interpret these findings with caution. Ganglion cysts are known to exhibit spontaneous fluctuation in size, and a single-case design limits the ability to attribute causality definitively to the intervention. The absence of a control group, imaging confirmation of structural resolution beyond size measurement, and long-term follow-up further restrict generalizability. The results suggest that structured naturopathic hydrothermal therapy may offer supportive benefits in reducing symptoms associated with ganglion cysts, particularly in terms of pain relief and apparent size reduction. Further controlled clinical studies with larger sample sizes are required to validate these preliminary observations and to establish standardized treatment protocols. Overall, this case highlights a potentially promising non-invasive adjunct approach for managing ganglion cysts, emphasizing the need for integrative research combining conventional assessment methods with naturopathic interventions.

## CONCLUSION

The present case study suggests that a structured 15-day naturopathic intervention—comprising warm oil application, infrared radiation, hot compress, and immediate cold affusion—was associated with a marked reduction in ganglion cyst size and improvement in pain intensity. The cyst volume decreased from 3.08 cm<sup>3</sup> to 0.29 cm<sup>3</sup> approximately 90.6%, accompanied by a reduction in VAS pain scores, indicating a possible beneficial effect of hydrothermal therapy on symptom

relief and cyst regression. However, these findings are based on a single-case observation and therefore cannot establish causality. Factors such as spontaneous fluctuation in cyst size, and natural disease resolution may have contributed to the observed outcomes. In addition, the absence of a control group and lack of long-term follow-up limit the generalizability and clinical strength of the results. Despite these limitations, the findings indicate that naturopathic hydrotherapy may have potential as a supportive, non-invasive adjunct in the symptomatic management of ganglion cysts. Further rigorous randomized controlled trials with larger sample sizes are required to validate these preliminary observations and to determine standardized clinical protocols.

## REFERENCES

- Linden Head , John Gencarelli , Murray Allen, Kirsty Usher Boyd. Wrist ganglion treatment: systematic review and meta-analysis. *J Hand Surg Am.* 2015;40:546- 553.
- Landon M Cluts, John R Fowler. 2020. Factors Impacting Recurrence Rate After Open Ganglion Cyst Excision. *HAND Publication.* 17(2):261–265.
- Jonathan Lans , Keith M George , Merel Hazewinkel , Kyle R Eberlin , Neal C Chen , Rohit Garg. 2023 Oct 9. Recurrence, Reoperation, and Patient-Reported Outcomes after Wrist Ganglion Excision. *Journal of Wrist Surgery* 13(5):439–445.
- Ganglion Cyst- An Unsolved Mystery Nupur Shahl, Vama Bhavsar, Tulsi Bhatia, Zalak Dave and Mihir Y Parmar 2025. *Crimson Publishers.* Volume2 , Issue 4.
- Nathan C. Winek , Mark Ren , Grace Kirkwood , Taylor Paskey , Robert J. Strauch 2025. Ganglion Recurrence Rates After a Simple Puncture and a Review of the Literature. *Open Access Original Article.*
- N Azwa, A Shalimar, S Jamari. A Palmar Lipoma with Median and Ulnar Nerve Compressive Symptoms. *Malaysian Orthopaedic Journal* 2007 Vol 1 No 2.
- Jae Hoon Kim, Jung Hee Lee, Cho In Lee, Yun-Kyu Lee, Hyun-Jong Lee, Jae Soo Kim. 2020. Effects of Acupotomy on a Dorsal Wrist Ganglion Cyst with Ultrasonography: A Case Report with a 7-Month Follow-up. *Journal of Acupuncture Research.*
- Jeff Walter Rajadurai, S Mohan, Pooja M and Nuseba Shehla Jeelani K. An Unusual Presentation of Ganglion Cyst. *EC Orthopaedics* 12.1 (2021): 12-14.
- Sunder Goyal, Snigdha Goya. 2020. Bilateral ganglion of wrist: management still a dilemma. *The Journal of Medical Research* 2020; 6(1): 3-6.
- Warren Gude, Vincent Morelli. Ganglion cysts of the wrist: pathophysiology, clinical picture, and management. 2008.
- Roger E. Gregush; Steven F. Habusta. 2023. *Ganglion Cyst.* Stat Pearls Publishing LLC.

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