

Case Report

Combined Physiotherapy and Osteopathy in a Patient with Idiopathic Frozen Shoulder and Neck Pain: A Two - Months Follow Up

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Abstract

Background: Neck and shoulder pain are prevalent conditions that can cause disability. Manual therapy, exercise, and education, often in combination, have shown the most evidence as physiotherapy treatments for patients with idiopathic frozen shoulder and neck pain. Previous research on this topic has already been published on Coreus Journal on September 6, 2023.

The aim of this study is to showcase the effectiveness of patient education following successful physiotherapy treatment.

Methods: The patient, F.C., is a 52-year-old female nurse who underwent a total of 20 manual physiotherapy sessions and 8 osteopathy sessions from April to June 2023. The physiotherapy treatment involved various techniques, including mobilizations, shoulder joint pommage, joint capsule stretching, cervical spine pommage, and stretching of the elbow and neck muscles. The osteopathic treatment focused on manual techniques applied to the diaphragm and connective tissue of the liver.

To assess the outcomes related to the shoulder, the Italian Version of the DASH Questionnaire (questions 1-34) and range of motion (ROM) measurements were utilized. The VAS scale was used to evaluate both neck pain and shoulder pain.

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One month after completing the sessions, the patient underwent a follow-up orthopedic examination. The doctor prescribed a series of strengthening exercises specifically targeting the rotator muscles, triceps muscle, and deltoid for the shoulder. These exercises were taught by physiotherapists, and the patient performed them independently three times a week.

Results: After 20 sessions and follow up the passive range of motion (ROM) in flexion and abduction of the shoulder was nearly complete, but accompanied by slight pain at the end of the range (VAS=2). The DASH score decreased from 98 to 56 points, indicating an improvement in shoulder function. The strength of the triceps and deltoid muscles improved to MRC 4+. Neck and elbow pain was completely resolved. As a result, the patient no longer needed to use painkillers. The patient was able to resume regular work in the surgery departments and expressed great satisfaction with the achieved results. She also expressed a willingness to learn exercises that could be performed at home to maintain the improvements achieved.

Conclusion: This case report aims to highlight the effectiveness of the combination of physiotherapy and osteopathy in a patient with severe shoulder and neck pain.

It underscores the importance of establishing a strong therapeutic relationship between the healthcare provider and the patient, which contributes to successful treatment outcomes. These positive outcomes suggest that the combination of manual physiotherapy, osteopathy, and patient education followed by independent exercise performed by the patient has led to significant improvements in pain reduction, functional ability, and overall satisfaction with the treatment.

Introduction

Neck and shoulder pain are prevalent conditions that can cause disability and impact daily functioning. Idiopathic Frozen Shoulder, a condition of unknown origin, is characterized by pain, stiffness, and restricted range of motion in the shoulder, with symptoms worsening over time. Rehabilitation has been shown to be effective in reducing pain and improving function in patients with this condition [1]. It is estimated to affect approximately 2% to 5.3% of the general population [2].

Neck pain is one of the most common musculoskeletal disorders, with a higher prevalence in female patients [3]. It is defined as pain in the neck, with or without referred pain into one or both upper limbs, lasting for at least 1 day. Physiotherapy treatments such as manual therapy, exercise, and education, often used in combination, have shown to have the strongest evidence in managing neck pain [4].

Overall, these findings highlight the importance of rehabilitation and physiotherapy interventions in addressing shoulder and neck pain, improving function, and enhancing the quality of life for affected individuals.

Regarding osteopathy, the overall evidence regarding its efficacy is limited. However, one study has highlighted the potential usefulness of diaphragm treatment for cervical spine-related problems [5]. This approach involves manual techniques applied to the diaphragm and connective tissue of the liver in cases of shoulder pain. The

rationale behind this treatment is that the phrenic nerve, which innervates both the diaphragm and the connective tissue of the liver, originates from the same cervical vertebrae as the branch of the brachial plexus that innervates the upper limb.

While this study highlights potential benefits of diaphragm treatment in shoulder pain, it is important to note that more research is needed to establish its effectiveness and understand the underlying mechanisms. The overall evidence for osteopathy is limited, and further studies are required to determine its efficacy in various musculoskeletal conditions. The objective of this study is to show the effectiveness of patient education after successful physiotherapy treatment combined osteopathic and physiotherapy techniques in a 52 year-old woman with idiopathic shoulder and neck pain frozen by November 2022. The exercises taught in a precise way to be performed at home after the 20 physiotherapy sessions, contributed to improving the quality of life as well as maintaining the results obtained. The abstract of this case report (without follow up) has already been published in Coreus Journal on September 6, 2023 [6].

The description of this clinical case with follow up is important to demonstrate the importance of a multidisciplinary approach centered on the patient and aimed at solving the problem. The case was reported according to CARE checklist [7].

Narrative

The patient, F.C., is a nurse who had been experiencing worsening pain in her right shoulder since November 2022. In February 2023, she underwent four intra-articular corticosteroid injections and attended 10 sessions of physical physiotherapy and massage therapy, as prescribed by an orthopedic doctor. However, the pain only improved partially with the injections, and the physiotherapy sessions had no effect on her condition. Following a check-up, the orthopedic doctor prescribed a new cycle of manual physiotherapy to manage neck and shoulder pain.

A total of 20 manual physiotherapy sessions, lasting 45 minutes each and 8 osteopathy sessions, lasting 30 minutes each were performed from April to June 2023. At the first evaluation, in April, the patient presented with shoulder pain in all directions of movement. She reported having pain at night and taking NSAIDs twice a week to manage it. The patient also had neck pain which she had previously suffered from but which was worsened by the shoulder and right elbow pain. She also reported having serious family problems resulting from a severe trauma for about 6 months. Physiotherapy was based on mobilizations, shoulder joint pompage, joint capsule stretching, cervical spine pompage, elbow muscle and neck muscle stretching. Osteopathic treatment has been based on manual techniques applied to the diaphragm and the connective tissue of the liver.

Shoulder-related outcomes were assessed with the Italian Version of DASH Questionnaire (question 1-34) [8] and ROM measurement. Neck pain and shoulder pain were assessed with the VAS scale.

Results

Shoulder outcomes

Passive ROM of the shoulder was initially not possible as the patient had pain in all directions of motion. Only about 30 degrees flexion and 20 degrees abduction was possible without pain.

At the first session, about 10 days after the first evaluation, when pain was under control by NSAIDs, it was possible to measure the

pain-free passive ROM, which was 130 degrees in flexion, 80 in abduction, 20 in internal rotation and 30 degrees in external rotation. The active ROM instead, at the same session, was about 35 degrees in abduction and 40 in flexion (Table 1). The execution was very slow and in any case painful.

At the last session, passive ROM in flexion and abduction was almost complete. The internal rotation was 50 degrees, with slight stiffness at the end of the movement and 75 degrees of external rotation. All movements were accompanied by a slight pain at the end of the range (VAS=3).

	PROM		A ROM	
	1st	20 th	1st	20 th
	session	session	session	session
Elevation	130°	170°	40°	160°
Extension	40°	50°	30°	40°
Abduction	80°	110°	35°	80°
Internal rotation	20°	50°	10°	30°
External rotation	30°	75°	20°	70°

Table 1: Active and Passive Range Of Movement at 1st and last session, before follow up.

The active ROM was about 160 degrees in flexion and about 80 in abduction. It was possible a 160-degree abduction movement, but the latter was accompanied by significant pain beyond 90 degrees. Differences in active and passive ROM between the start and end of treatment are shown in table 1.

The DASH score decreased from 98 to 75 points after 20 sessions and to 56 at follow up evaluation (Table 2 & Figure 1). The VAS score dropped from 9 to 3 points for the shoulder.

	1st	10th	20th	2 - months follow
	session	session	session	up
DASH	98	-	75	56
VAS (Shoulder)	9	6	3	2
VAS (Neck)	7	4	3	0
VAS (Elbow)	6	0	0	0

Table 2: DASH and VAS score.

DASH SCORE

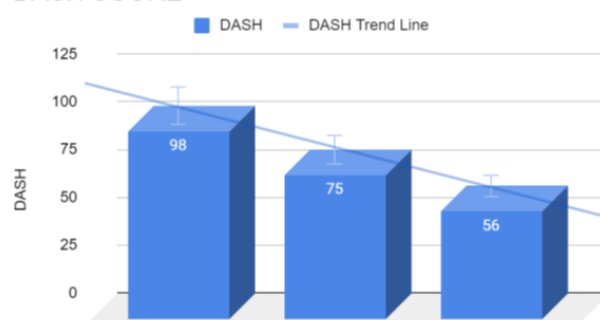


Figure 1: Differences in DASH score.

Neck and Elbow outcomes

The VAS score dropped from 7 to 3 points for the neck. Elbow pain was completely resolved after 3 sessions (Table 2).

Osteopathy sessions

During the osteopathic evaluation, the patient exhibited restricted mobility in both the diaphragm and liver. The liver typically descends, advances, and performs a forward rocking movement during inspiration. By applying manual mechanical techniques to these structures, the restrictions were reduced, which also had a positive impact on the shoulder through the nervous system.

Drugs, daily life activities and patient satisfaction

After 12 sessions of manual physiotherapy, the patient experienced a significant reduction in her medication intake and eventually stopped taking it completely. By the 14th session, she was able to resume almost full work activity, and her shoulder range of motion (ROM) had improved to complete in all directions. The patient expressed high satisfaction with the achieved results and specifically noted the benefits of combining both manual physiotherapy and other treatments.

Follow up

One month after the completion of the sessions, the patient underwent a follow-up orthopedic examination. The doctor prescribed a series of strengthening exercises for the shoulder muscles, specifically targeting the rotator muscles, triceps muscle, and deltoid. These exercises were taught by physiotherapists, and the patient performed them independently three times a week. To provide visual representation, accompanying photos illustrate the main exercises that were taught to the patient, aiding in their understanding and adherence to the prescribed exercise regimen (Figures 2-4).

On August 31, 2023, a final evaluation was conducted, which included the administration of DASH questionnaire and the VAS scale. The DASH score decreased from 75 (as recorded during the last session) to 56, indicating an improvement in the patient's overall function.

Additionally, the VAS score for the shoulder decreased from 3 to 2, indicating a reduction in pain intensity. The patient also reported that she no longer experienced pain in her neck and elbow.



Figure 2: Rotator muscle exercises.



Figure 3: Triceps muscle exercise.



Figure 4: Triceps muscle exercise (variant).

Discussion

This case report aims to emphasize the effectiveness of combining physiotherapy and osteopathy in the treatment of a patient experiencing severe shoulder and neck pain. It is worth noting that the patient had recently suffered a severe trauma, which likely contributed to the onset and intensity of the pain. Previous research has shown that psychological factors play a significant role in shoulder pain [9]. In this particular case, it was notable that the pain coincided with the psychological trauma. The therapists' ability to establish a strong empathetic connection, the patient's trust in the treatment, and the development of an excellent therapeutic relationship were key factors in the successful outcome of the treatment. While these elements are always important in the therapist-patient relationship, they are particularly crucial when dealing with a patient under severe psychological stress.

Given the significant psychological component, the osteopathic treatment in this case focused on addressing the diaphragm muscle. This approach proved beneficial in improving the patient's neck pain and promoting relaxation. The combined physiotherapy and osteopathy sessions played a crucial role in reducing pain. However, once the pain was managed, it was necessary to incorporate muscle strengthening exercises to stabilize the shoulder. These exercises not only helped further decrease pain but also increased functional capacity. Consequently, the patient's quality of life and work efficiency improved as well.

Conclusion

This case report aims to highlight the effectiveness of the combination of physiotherapy and osteopathy in a patient with severe shoulder and neck pain. It also underscores the significance of establishing a strong therapeutic relationship, the most important starting point for successful treatment outcomes. Furthermore, the study highlights the importance of patient education in maintaining and improving the achieved results. In this case, the patient was provided with exercises to be performed for approximately 15 minutes, three times a week. These exercises were crucial in promoting ongoing progress and recovery.

Conflict of Interest

The authors declare have no conflicts of interest.

References

1. Cavalleri E, Servadio A, Berardi A, Tofani M, Galeoto G (2020) The effectiveness of physiotherapy in idiopathic or primary frozen shoulder: A systematic review and meta-analysis. *Muscles, Ligaments and Tendons Journal* 10: 24-39.
2. Kelley MJ, Shaffer MA, Kuhn JE, Michener LA, Seitz AL, et al. (2013) Shoulder pain and mobility deficits: adhesive capsulitis. *J Orthop Sports Phys Ther* 43: 1-31.
3. Kazeminasab S, Nejadghaderi SA, Amiri P, Pourfathi H, Araj-Khodaei M, et al. (2022) Neck pain: global epidemiology, trends and risk factors. *BMC Musculoskelet Disord* 23: 26.
4. Verhagen AP (2021) Physiotherapy management of neck pain. *J Physiother* 67: 5-11.
5. McCoss CA, Johnston R, Edwards DJ, Millward C (2016) Preliminary evidence of Regional Interdependent Inhibition, using a 'Diaphragm Release' to specifically induce an immediate hypoalgesic effect in the cervical spine. *J Bodyw Mov Ther* 21: 362-374.
6. Piccarozzi G, Romualdi S, Briganti A, Cellurale G, Zanolini F (2023) The Effectiveness of Combined Physiotherapy and Osteopathic Treatment in Pain Management in a Patient with Idiopathic Frozen Shoulder: a Case Report. *Coreus Journal*.
7. Riley DS, Barber MS, Kienle GS, Aronson JK, Schoen-Angerer T, et al. (2017) CARE guidelines for case reports: explanation and elaboration document. *J Clin Epidemiol* 89: 218-235.
8. Padua R, Padua L, Ceccarelli E, Romanini E, Zanolini G, et al. (2003) Italian version of the Disability of the Arm, Shoulder and Hand (DASH) questionnaire. Cross-cultural adaptation and validation. *J Hand Surg Br* 28: 179-186.
9. Farzad M, MacDermid JC, Ring DC, Shafiee E (2021) A Scoping Review of the Evidence Regarding Assessment and Management of Psychological Features of Shoulder Pain. *Rehabil Res Pract* 2021: 7211201.



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