Case Report

Clinical Improvement of Shoulder Impingement Syndrome Following Naturopathic Management in a Competitive Shooter: A Single Case study.

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ABSTRACT

Shoulder impingement syndrome is a common musculoskeletal condition characterized by shoulder pain, restricted range of motion, and difficulty performing daily activities. It may affect an individual's functional ability and quality of life. We report the case of a 36-year-old female patient who presented with shoulder pain radiating towards the arm and was diagnosed with shoulder impingement syndrome. Pain intensity was assessed using the Visual Analogue Scale (VAS) before and after the intervention. The patient received a seven-day multimodal treatment program consisting of partial shoulder massage with herbal oil, ice application, herbal kizhi (herbal fomentation), interferential therapy (IFT), cervical traction, and external application of herbal preparations. The treatment modalities were administered according to the patient's clinical condition and tolerance.

Key words: Shoulder impingement syndrome, naturopathy, case reports.

The coracoacromial arch forms the superior boundary of the shoulder joint and consists of the coracoid process, acromion, and coracoacromial ligament. Increased tension, thickening, or reduced flexibility of the coracoacromial ligament can contribute to subacromial space narrowing and shoulder impingement [1]. Shoulder impingement syndrome is a common shoulder disorder characterized predominantly by pain and functional limitation associated with loading of the rotator cuff and subacromial tissues during shoulder movement. Its development is multifactorial, involving interactions among tendon capacity, shoulder muscle function, scapular and glenohumeral biomechanics, physical activity, and individual factors. Conservative rehabilitation, particularly progressive exercise therapy, forms the cornerstone of management [5].

Management of shoulder pain in primary care should begin with clinical assessment, identification of red flags, appropriate diagnosis, conservative treatment, and follow-up. Most uncomplicated shoulder conditions can initially be managed non-operatively [2]. However, the association should not be interpreted as evidence of a direct causal relationship, as shoulder impingement is multifactorial and strength of evidence for individual postural and myofascial factors varies [3].

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Physiotherapy and exercise therapy are effective conservative interventions for patients with shoulder impingement syndrome. A progressive exercise program incorporating range-of-motion, rotator-cuff strengthening, scapular stabilization, and flexibility exercises may reduce pain and improve shoulder function. Exercise may also improve neuromuscular control and scapulohumeral coordination, thereby reducing excessive mechanical loading of the subacromial tissues during shoulder elevation. Regular, appropriately dosed exercise is therefore considered a key component of rehabilitation and may help patients return to normal functional activities [4].

Scapular stabilization and mobilization-based rehabilitation may be effective components of conservative management for subacromial impingement syndrome. Scapular stabilization exercises are intended to improve neuromuscular control and coordination of the scapular stabilizing musculature. In contrast, mobilization techniques may help address clinically relevant restrictions in shoulder mobility and facilitate movement. When combined with progressive rotator-cuff strengthening and functional exercises, these interventions may contribute to reductions in pain and improvements in shoulder range of motion and functional performance. The effects are likely to be greatest when rehabilitation is

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individualized according to the patient's impairments according to the patient's impairments and progressively advanced according to the Visual Analogue Scale (VAS) [6].

CASE PRESENTATION

A 36-year-old female gun shooter presented with a three-month history of shoulder pain associated with prolonged gun-shooting practice. The patient complained of shoulder pain that increased after prolonged gun-shooting practice, resulting in difficulty performing routine daily activities following the practice session.

The patient had been experiencing shoulder pain for approximately three months. She reported mild pain during gun-shooting practice, which progressively increased in intensity after approximately three hours of continuous practice. Following the practice session, the pain became severe enough to interfere with her ability to perform routine daily activities. The patient reported that each symptomatic episode lasted approximately 30–60 minutes.

The symptoms were aggravated by prolonged shooting practice, suggesting a possible association between sustained shoulder positioning, repetitive activity, and pain aggravation. The patient had not taken any medication for the presenting complaint before the commencement of the treatment program. The patient was engaged in gun shooting as a sporting activity and practiced for approximately three hours per session. The sustained upper-limb position required during shooting was considered a relevant factor in evaluating her shoulder symptoms.

The relationship between shooting activity and pain aggravation was assessed alongside the clinical examination findings. The patient reported regular menstrual cycles without a history of irregular menstruation. Her obstetric history included a twin pregnancy. The patient reported no previous medication use for the presenting shoulder pain.

The clinical assessment included patient history, shoulder inspection and palpation, range of motion assessment, muscle strength testing, functional assessment, and special clinical tests, including the Neer impingement test, Hawkins–Kennedy test, painful arc test, and Jobe's test. Cervical spine and neurological examinations were also performed to assess possible alternative causes of shoulder and arm pain. Findings were recorded according to the actual

examination results. Pain intensity was assessed using the VAS before and after the seven-day treatment program. The baseline and post-treatment scores were documented to evaluate changes in pain intensity.

VITAL AND CLINICAL DATA

Table 1 shows the baseline vital data measured for the patient.

Table 1. Vital data recorded for the patient

Sl. No.	Vital/clinical parameter	Recorded value
1.	Blood pressure	120/80 mmHg
2.	Pulse rate	78 beats/min
3.	Respiratory rate	18 cycles/min
4.	SpO_2	96%
5.	Temperature	Afebrile
6.	BMI	32.01 kg/m²

INTERVENTION

The patient received a multimodal treatment protocol at G.T.N. Prakrithi Chikitsalaya (Naturopathy Hospital), Dindigul for 7 days, including naturopathy, Physiotherapy, and Traction.

Naturopathy treatment

This included a seven-day treatment program consisting of partial herbal oil massage, herbal kizhi, ice application, interferential therapy, cervical traction, herbal application, and selected yoga practices. Pain intensity and functional status were evaluated before and after the intervention to document the patient's response to treatment. Naturopathic Protocols recommended for the patient were 50-60 minutes daily (Table 2).

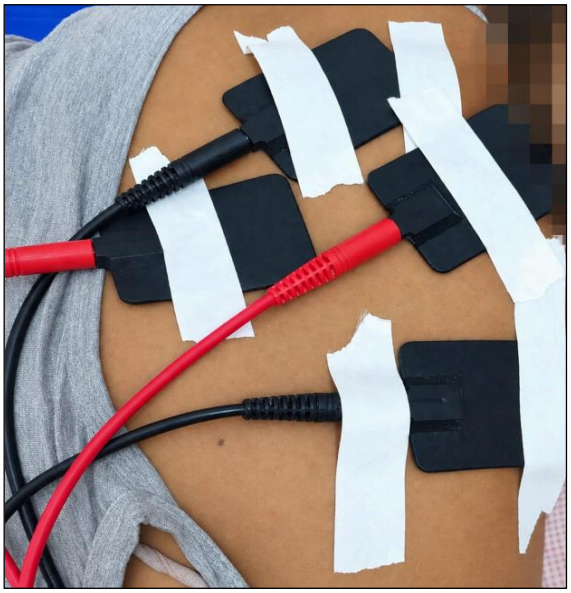


Figure 1. IFT

Ice massage: Ice massage is a cryotherapy method where ice is applied and gently moved over the affected area to relieve pain, reduce inflammation, and decrease discomfort.

Oil Massage: Oil massage is a therapeutic technique in which natural or medicated oil is gently applied and massaged over the body or affected area to promote relaxation, improve circulation, reduce muscle tension, and relieve pain.

Egg white and fever nut Powder Application: Traditional supportive topical intervention in which egg white is applied locally over the affected area. The application is intended to

provide a soothing and cooling effect to the underlying tissues and may be used as an adjunctive measure for the management of localized musculoskeletal discomfort.

IRR: IRR therapy may be used as an adjunctive treatment to facilitate relaxation of the surrounding musculature and improve comfort during therapeutic exercises and other rehabilitation procedures. IRR is a superficial heat therapy used in physiotherapy to warm tissues near the skin's surface. This relieves muscle stiffness, provides temporary relief from pain, increases superficial blood circulation, helps relax muscles, may improve comfort before therapeutic exercises.

Cervical traction: Gentle shoulder traction may be used as an adjunct to mobilization and therapeutic exercise. It may help improve comfortable shoulder movement and reduce mechanical stress around the joint (Figure 2).

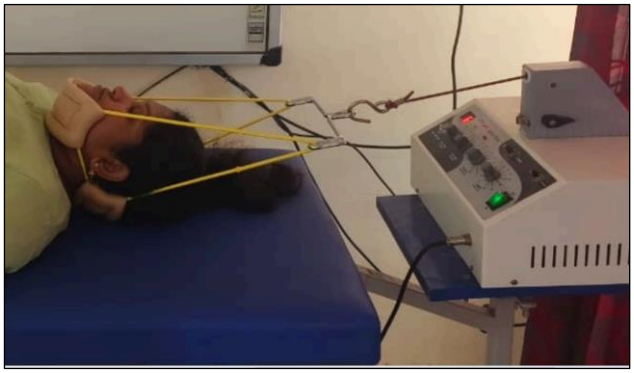


Figure 2. Cervical traction

Yoga therapy: Suitable therapeutic practices may include gentle shoulder movements, Tadasana, Gomukhasana arm position (Figure 3), Bhjangasana, Marjariasana, gentle neck movements, and relaxation practices, depending on the patient's condition and range of motion.

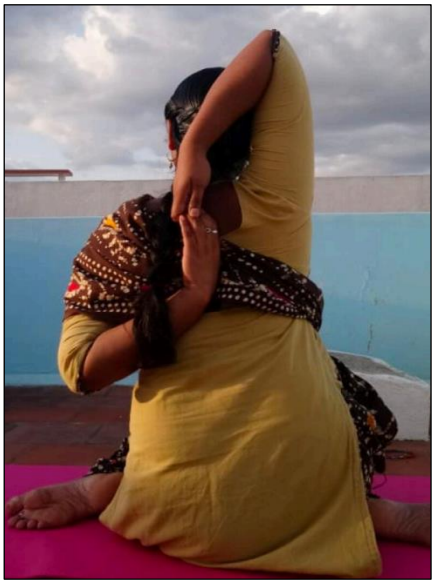


Figure 3. Gomukhasana arm position

Acupressure: Acupressure may be applied to selected points around the shoulder, upper back, and forearm. Pressure should be gentle and should not be applied directly over acutely inflamed, swollen, injured, or infected areas.

Table 2. Naturopathic Protocols advocated for the patient.

Date	Treatment	Duration
15/07/2026	Partial oil massage to shoulder (Gingelly oil with camphor and ajwain)	20 minutes
	Kizhi (Neem leaf, Gulmohar leaf, tamarind leaf)	5 minutes
	Interferential therapy (Figure 1)	15 minutes
16/07/2026	Hot mud application	20 minutes
	Active and passive movements (Active movements: Shoulder flexion, abduction, adduction and rotation; Passive movements: Shoulder flexion, abduction and external rotation)	15 minutes
	Partial massage to shoulder	20 minutes
17/07/2026	Interferential therapy	15 minutes
	Partial massage to shoulder	20 minutes
	Kizhi (Neem leaf, Gulmohar leaf, tamarind leaf)	5 minutes
18/07/2026	Partial massage to shoulder	20 minutes
	Herbal application to shoulder	20 minutes
	IRR (Infrared Radiation)	5 minutes
19/07/2026	Partial massage to shoulder	20 minutes
	IRR	5 minutes
	Loosening exercises (Physiotherapy)	15 minutes
21/07/2026	Ice massage	20 minutes
	Yoga	20 minutes
	Interferential therapy	15 minutes
22/07/2026	Cervical traction	15 minutes
	Interferential therapy	15 minutes
	Partial massage to shoulder	20 minutes

The naturopathic interventions consisted of the following.

RESULT

Pain intensity was assessed before and after the intervention using the VAS (Table 3). There was a reduction in the scores after the intervention, showing improvement. The VAS provided a straightforward method for documenting the patient's subjective change in pain intensity. The reduction from the baseline VAS score of 8/10 to 2/10 after 7 days indicates subjective pain relief at the end of the treatment period.

Table 3. VAS daily pre- and post-treatment assessment

Sl. No.	Days	Pre-treatment	Post-treatment
1	Day 1	8/10	6/10
2	Day 2	6/10	5/10
3	Day 3	5/10	4/10
4	Day 4	4/10	3/10
5	Day 5	4/10	3/10
6	Day 6	3/10	2/10

DISCUSSION

The present case report describes the naturopathic management of shoulder impingement syndrome in a 36-year-old female gun shooter. The patient received a seven-day multimodal treatment program consisting of partial herbal oil massage, herbal kizhi, ice application, IFT, cervical traction, herbal application, and selected yoga practices.

The improvement observed in this case may be attributed to the combined effects of the different therapeutic modalities. Partial oil massage may contribute to relaxation of tense soft tissues and temporary reduction in pain through mechanical and sensory effects [7]. Massage stimulates blood flow to muscles and tissues; improves circulation by increasing lymph flow, enhancing oxygen and nutrient delivery, aiding waste removal, reducing swelling, promoting healing, and encouraging relaxation of the cardiovascular system, delivering more oxygen and nutrients to cells [6, 7, 8].

Kizhi, used provides local warmth and may help promote relaxation of muscles and improve local circulation, potentially facilitating comfortable shoulder movement [7,8,9]. Cryotherapy (ice massage) used in the present study was found to be used as an adjunctive treatment for shoulder impingement syndrome, mainly to reduce pain and inflammation and make movement/exercise more comfortable [9]. Yoga focuses on improving flexibility, muscle strength, posture, breathing, and relaxation, reducing shoulder pain [10]. IFT stimulates sensory nerve fibers and can reduce pain transmission through pain-gating mechanisms [11]. It may also activate endogenous pain-relieving mechanisms [12]. The effectiveness of IFT on shoulder pain in the present case was similar to that of previous studies [13]. Home-based exercises may also contribute to reductions in pain, improvements in quality of life, and enhancement of selected ranges of motion [14].

The study has several limitations, including its single-patient design, short seven-day intervention period, and absence of a control group. The multimodal treatment protocol prevents the independent evaluation of individual interventions, while the lack of long-term follow-up limits conclusions regarding the sustainability of symptom improvement. The herbal application provided local soothing and thermal effects; however, the specific contribution of these individual herbs to the patient's clinical improvement cannot be established from a single case. Nevertheless, VAS measures subjective pain perception and may be influenced by several factors, including rest, activity, psychological factors, expectations, and natural fluctuation of symptoms.

CONCLUSION

The present case suggests that a 7-day naturopathic management protocol may be beneficial in reducing pain associated with shoulder impingement syndrome, as assessed using the VAS.

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