Case Report

ROLE OF THERAPEUTIC YOGA IN THE SUPPORTIVE MANAGEMENT OF LOWER LIMB EDEMA, LEFT LEG VASCULAR OBSTRUCTION, MUSCULOSKELETAL DISCOMFORT, AND NUTRITIONAL DEFICIENCIES IN A 61-YEAR-OLD FEMALE: A CASE REPORT

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ABSTRACT

Background: Yoga therapy has recently gained attention as an adjunctive approach for individuals suffering from chronic circulatory and musculoskletal disorders. This case report describes the condition of a 61-year-old female patient presenting with bilateral lower limb swelling, persistent pain in the left leg due to vascular obstruction, shoulder discomfort, chest pain, and chronic backache. Diagnostic investigations including angiography and electrocardiography [ECG] had already been performed. Clinical assessment also revealed deficiencies of Vitamin D3 and Vitamin B12, which contributed to fatigue, muscular weakness, and reduced physical endurance. Due to the combined impact of vascular insufficiency and chronic pain, the patient experienced difficulty in mobility and routine daily activities. A carefully designed therapeutic yoga program incorporating breathing practices, gentle mobility exercises, supported postures, relaxation methods, and lifestyle guidance was introduced as complementary support along with standard medical care. The intervention aimed to improve circulation, reduce physical stiffness, enhance flexibility, and promote psychological relaxation. This report suggests that supervised therapeutic yoga may contribute positively to rehabilitation and quality of life in elderly individuals experiencing chronic vascular and musculoskeletal complications.

Keywords: Therapeutic Yoga, Lower Limb Edema, Pranayama

INTRODUCTION

Chronic vascular disorders and musculoskeletal complaints are frequently observed among older adults, especially in elderly women. Advancing age, decreased physical activity, circulatory impairment, and nutritional insufficiencies often lead to pain, stiffness, fatigue, and limitations in daily functioning. Lower limb edema and vascular compromise can further affect mobility and independence, thereby reducing overall quality of life. [1]

Peripheral vascular obstruction may impair blood circulation in the affected limb, resulting in pain, heaviness, muscular fatigue, and swelling. In addition, deficiencies of Vitamin D3 and Vitamin B12 are associated with weakness, neuropathic discomfort, reduced bone health, and decreased muscular efficiency. The coexistence of these conditions can negatively influence both physical and psychological health. [2]

In recent years, yoga therapy has been explored as a supportive rehabilitative intervention for chronic medical conditions. Therapeutic yoga differs from vigorous physical exercise because it emphasizes controlled breathing, relaxation, gentle movements, and individualized practice according to patient capacity and medical condition. Such practices may assist in improving flexibility, enhancing circulation, reducing stress, and promoting mental calmness without imposing excessive physical strain. [3]

The present case report evaluates the possible benefits of therapeutic yoga as an adjunctive supportive modality in a female patient experiencing vascular insufficiency, chronic pain, lower limb swelling, and nutritional deficiencies.

CASE REPORT

A 61-year-old female patient visited with complaints of bilateral swelling in the lower extremities, continuous pain in the left leg, shoulder discomfort, intermittent chest pain, and chronic backache. The symptoms had progressively affected her ability to stand for extended periods, walk comfortably, and perform household activities independently.

The patient underwent medical investigations including angiography and electrocardiography [ECG] to assess cardiovascular and vascular function. Examination findings indicated vascular blockage in

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the left lower limb, suggestive of compromised peripheral circulation. The patient additionally reported generalized fatigue, muscular tightness, and restricted physical mobility.

Biochemical evaluation demonstrated deficiency of Vitamin D3 and Vitamin B12. These deficiencies were considered contributory factors for weakness, low energy levels, musculoskeletal discomfort, and possible nerve-related symptoms. Ongoing pain and reduced mobility had also influenced the patient's emotional well-being, leading to stress and decreased confidence in performing routine activities.

Considering the patient's age, vascular status, and cardiovascular history, a mild therapeutic yoga regimen was recommended under supervision as a complementary supportive intervention alongside medical treatment. The primary objectives of the yoga program were to encourage relaxation, improve circulation, enhance flexibility, and reduce physical as well as psychological stress.

The therapeutic protocol consisted of diaphragmatic breathing exercises, slow Anulom Vilom Pranayama performed without breath retention, gentle ankle and toe mobilization exercises, chair-assisted Tadasana, modified spinal stretching movements, and guided relaxation through Shavasana. The practices were selected carefully to minimize cardiovascular strain and avoid unnecessary pressure on the affected limb.

1. Supta Baddha Konasana

This restorative posture encourages relaxation and improves circulation in the pelvic and abdominal regions. It may help reduce fatigue and calm the nervous system. [Figure 1]

Figure 1: Supta Baddha Konasana

2. Supta Sukhasana

A gentle reclining posture that supports deep breathing and mental relaxation. It is especially useful for elderly individuals experiencing weakness or stress. [Figure 2]

Figure 2: Supta Sukhasana

3. Tadakasana

This stretching posture helps elongate the spine, improve posture, and increase body awareness. It may also assist in improving balance and circulation. [Figure 3]

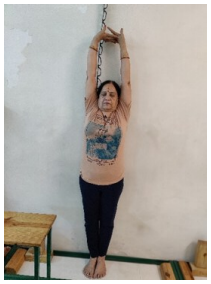

Figure 3: Tadakasana

4. Utthita Trikonasana

This pose provides a lateral stretch to the body and supports flexibility of the spine and legs. It may stimulate abdominal organs and support digestive function.

5. Utthita Parsvakonasana

A strengthening and stretching posture that enhances lower body stability and promotes circulation throughout the body. [Figure 4]

Figure 4: Utthita Parsvakonasana

6. Uttanasana

Forward bending postures help calm the mind, reduce mental tension, and gently stretch the back muscles and hamstrings.[Figure 5]

Figure 5: Uttanasana

7. Adho Mukha Svanasana

This full-body posture strengthens the arms and legs while improving circulation and reducing physical fatigue. [Figure 6]

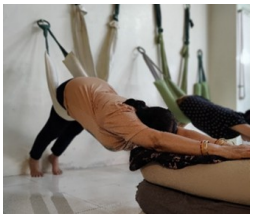

Figure 6: Adho Mukha Svanasana

Advanced and Inversion Postures

8. Sirsasana

Traditionally regarded as an advanced posture, it may improve concentration and circulation. It should only be practiced under expert supervision and avoided in uncontrolled hypertension or severe weakness. [Figure 7]

Figure 7: Sirsasana

Uttanasana, Adho Mukha Svanasana and Sirsasana were done under instruction.

Twisting and Core Practices

9. Bharadvajasana

This seated twist improves spinal mobility and may support digestion and posture correction. [Figure 8]

Figure 8: Bharadvajasana

10. Jathara Parivartanasana

This twisting posture gently massages abdominal organs and improves flexibility of the lower back and spine. [Figure 9]

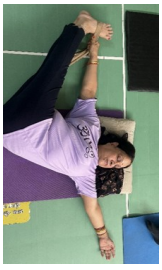

Figure 9: Jathara Parivartanasana

11. Supta Padangusthasana

Helpful for stretching the legs and improving flexibility, especially in individuals with muscular tightness or reduced lower-limb circulation. [Figure 10]

Figure 10: Supta Padangusthasana

12. Supta Marichyasana

This reclining twist helps release tension from the spine and abdominal region while promoting relaxation. [Figure 11]

Figure 11: Supta Marichyasana

13. Supta Bharadvajasana

A restorative spinal twist that supports flexibility and relieves stiffness in the back and waist. [Figure 12]

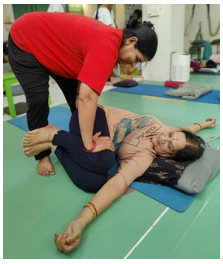

Figure 12: Supta Bharadvajasana

Restorative and Inversion Practices

14. Setu Bandha Sarvangasana

A mild backbend that stretches the chest and spine while helping reduce stress and physical fatigue. [Figure 13]

Figure 13: Setu Bandha Sarvangasana

Therapeutic Joint and Mobility Exercises

15. Neck Exercise – Second Variation

This movement improves neck flexibility and reduces muscular stiffness around the cervical region. [Figure 14]

Figure 18: Neck Exercise

16. Elbow traction

Gentle elbow movements help maintain joint mobility and improve blood circulation in the upper limbs. [Figure 15]

Figure 15: Elbow traction

17. Wrist Exercise [Fist Movement]

These exercises strengthen wrist muscles and improve movement in the hand and forearm joints.

18. Knee Exercise

Beneficial for maintaining knee joint flexibility and improving mobility in elderly individuals. [Figure 16]

Figure 16: knee exercise

19. Weight-on-Feet Exercise

Benef A balancing exercise that strengthens the legs, improves posture, and enhances body stability.

Daily breathing exercises were practiced for approximately five to ten minutes in a relaxed seated posture to encourage calmness and improve respiratory efficiency. Gentle lower limb exercises were introduced to support circulation and maintain joint mobility. Chair-supported postures were preferred to ensure stability, reduce fall risk, and improve postural awareness.

The patient was instructed to avoid strenuous yoga techniques, forceful breathing exercises, prolonged standing positions, and inverted postures because of her vascular condition. Additional recommendations included adequate hydration, safe sunlight exposure, nutritional correction, and physician-guided supplementation of Vitamin D3 and Vitamin B12.

Regular relaxation sessions and mindful breathing practices were encouraged to decrease muscular tension, mental stress, and anxiety associated with chronic illness. Over time, the yoga-based supportive program was expected to improve comfort, flexibility, emotional stability, and overall functional well-being.

DISCUSSION

Therapeutic yoga has increasingly been recognized as a supportive modality in the rehabilitation of patients suffering from chronic circulatory and musculoskeletal disorders. Elderly individuals with vascular insufficiency and persistent pain frequently experience limitations in performing intense physical activity due to fatigue, weakness, and cardiovascular concerns. Under such conditions, gentle and modified yoga practices may offer a safer rehabilitative option. [3]

This case highlights the importance of individualized yoga intervention in addressing multiple symptoms such as lower limb swelling, vascular compromise, chronic back pain, and muscular stiffness. Slow yogic movements encourage mild muscular activity that may assist venous return and peripheral circulation without placing excessive demand on the cardiovascular system. [4]

Breathing techniques such as diaphragmatic breathing and alternate nostril breathing may also contribute to autonomic balance and reduction of stress-related sympathetic activity. Psychological stress often aggravates chronic pain perception, fatigue, and sleep disturbances; therefore, relaxation-oriented practices may positively influence mental health and emotional stability.Chair-assisted yoga postures are particularly beneficial for elderly patients who experience weakness, instability, or fear of falling. Such supportive modifications allow safe participation in movement-based rehabilitation while maintaining patient confidence and comfort. Relaxation techniques may further help in reducing muscular tightness and improving sleep quality. [5]

Nutritional rehabilitation remains equally important in such cases. Vitamin D3 deficiency is associated with impaired bone and muscle health, whereas Vitamin B12 deficiency may contribute to neuropathic symptoms and generalized fatigue. A comprehensive management plan integrating medical treatment, nutritional support, physiotherapy, and therapeutic yoga may therefore provide a multidimensional approach toward recovery and improved quality of life. Although yoga cannot substitute medical intervention for vascular disorders, it may function as a beneficial complementary therapy when performed carefully under professional supervision. [6]

CONCLUSIONS

This The present case report demonstrates the supportive role of therapeutic yoga in the management of lower limb swelling, vascular obstruction, chronic musculoskeletal pain, and nutritional deficiencies in an elderly female patient. Gentle breathing practices, relaxation methods, supported postures, and mild mobility exercises may help improve flexibility, circulation, stress management, and overall physical comfort.

Yoga therapy should always be tailored according to the individual's medical condition and implemented cautiously

in patients with cardiovascular or vascular complications. A multidisciplinary rehabilitative strategy combining medical management, nutritional correction, physiotherapy, and therapeutic yoga may contribute significantly to long-term wellness and improved quality of life in elderly patients with chronic circulatory and musculoskeletal disorders.

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