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## Effect of Yoga and Naturopathy on Post-operative Liposarcoma-Induced Psychological Co-morbidities: A Case Report

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### Abstract

**Background:** Liposarcoma, a malignant tumor of adipose tissue, often necessitates extensive surgical intervention, leading to various psychological co-morbidities such as anxiety, depression, stress, and impaired QoL. Yoga, with its integrative approach to physical and mental well-being, has been suggested as a potential complementary therapy to alleviate psychological issues. Therefore, this case report aims to evaluate the effect of an integrated yoga intervention on psychological co-morbidities among post-operative liposarcoma.

**Methods:** A 60-year-old female patient who had undergone surgical resection of an atypical liposarcoma was recruited for the study. The patient participated in an 8-week yoga program consisting of asanas (postures), pranayama (breath control), and meditation. Psychological assessments were conducted a day before and after the intervention. Tools used included the Hamilton Anxiety Scale (HAS), Beck Depression Scale (BDI), Post-traumatic stress disorder (PTSD), and Quality of Life.

**Results:** Preliminary findings indicate notable reductions in HAS (25 to 15), BDI (28 to 12), PTSD (72 to 26), and increased QoL (37 to 82) following the yoga intervention. The patient reported improvements in overall mood, quality of life, and a better coping mechanism in dealing with the post-surgical psychological challenges.

**Conclusion:** The case report suggests that yoga was an effective complementary therapy in managing psychological co-morbidities among post-liposarcoma surgery. Further research with larger sample sizes and controlled trials is recommended to validate these findings and explore the potential of yoga in the broader oncological rehabilitation context.

**Keywords:** Liposarcoma, Yoga, Psychological Co-morbidities, Post-operative Care, Anxiety, Depression, Stress Management

### Introduction

Liposarcoma is a rare and aggressive form of cancer originating in the adipose tissue, posing significant challenges for patients both physically and psychologically [1]. Following surgical intervention, individuals often encounter a spectrum of psychological co-morbidities, including anxiety, depression, and altered body image [2]. These challenges can hinder recovery, exacerbate pain, and diminish overall quality of life, making it essential to address not just the physical, but also the mental health aspects of post-operative care [3].

The psychological impact of a liposarcoma diagnosis can be profound. Patients frequently face existential concerns related to their prognosis, fear of recurrence, and significant lifestyle changes due to treatment and surgery [4]. These factors contribute to increased levels of stress, which can further complicate their emotional and psychological well-being [5]. Conventional treatments for managing these co-morbidities often involve pharmacotherapy and psychotherapy; however, there is growing interest in complementary and alternative approaches [5]. Yoga has gained recognition as a valuable adjunct therapy in oncology care. By fostering a mind-body connection, yoga can promote emotional healing and resilience [6]. Its practices—ranging from physical postures (asanas) and breathing exercises (pranayama) to mindfulness and meditation—offer a multifaceted approach to managing stress and improving psychological health.

Research has shown that yoga can reduce anxiety and depression, enhance self-esteem, and improve overall quality of life in cancer patients [7]. This case report examines the effects of a structured yoga program on psychological comorbidities in a post-operative liposarcoma patient. We will present a comprehensive overview of the patient's psychological status prior to and following the intervention, employing standardized assessment tools to measure changes in anxiety, depression, and body image. Through this exploration, we aim to highlight the potential of yoga as a therapeutic modality that can complement traditional care and support psychological recovery in individuals navigating the complex journey of cancer treatment. This case underscores the importance of a holistic approach in post-operative care and the need for further research into the efficacy of integrative therapies in oncology.

### Case Presentation

A 60-year-old woman with no significant psychiatric history presented with an atypical liposarcoma of the thigh. She underwent wide local excision with negative surgical margins. Postoperatively, she reported persistent anxiety, depressive symptoms, disturbed sleep, intrusive memories related to surgery, and difficulty resuming daily activities. The patient was offered an 8-week integrated yoga program as a complementary intervention to routine postoperative care. Sessions were delivered thrice weekly and included gentle

asanas (postures), pranayama (breath regulation), and guided meditation. She was also encouraged to practice brief relaxation techniques at home.

### Intervention Detail

The patient underwent an 8-week integrative yoga and naturopathy program in addition to standard postoperative care. The intervention included the following components:

#### Yoga Therapy

- **Asanas:** Sukshma Vyayama (15 minutes, twice daily) aimed at improving flexibility, circulation, and gentle mobilization.
- **Pranayama:** Nadi Shuddhi (alternate nostril breathing), Sheetali (cooling breath), and Bhramari (humming breath) (15 minutes, twice daily) to regulate autonomic balance, reduce stress, and enhance relaxation.
- **Relaxation:** Deep Relaxation Technique (20 minutes, once daily) incorporating guided awareness of the body and breath to reduce fatigue and promote calmness.

#### Mud Therapy

- **Mud Pack:** Applied to the abdomen and eyes (15 minutes, once daily) with the intention of inducing local cooling, improving circulation, and providing a soothing effect on the nervous system.

**Table 1:** The intervention was supervised by a Yoga and Naturopathy doctor, and adherence was monitored through daily logs and patient feedback.

Name of the Therapy	Name of the specific treatment	Duration	Frequency/ Day
Yoga Therapy	Asanas	Sukshma Vyayama	15 min
	Pranayama	Nadi Shuddhi Pranayama Sheetali Pranayama Bhramari Pranayama	15 min
	Relaxation	Deep Relaxation Technique	20 min
Mud therapy	Mud pack to the abdomen and eyes	15 min	1

**Table 2:** Details of the intervention provided to the patient.

Assessment Tool	Baseline Score	Post-intervention Score	Change
Hamilton Anxiety Scale (HAS)	25	15	↓ 10
Beck Depression Inventory (BDI)	28	12	↓ 16
Post-traumatic Stress Disorder (PTSD) Scale	72	26	↓ 46
Quality of Life (QoL)	37	82	↑ 45

### Results

At baseline, the patient demonstrated clinically significant psychological distress, with elevated anxiety (HAS 25), depression (BDI 28), and post-traumatic stress (PTSD 72), along with poor quality of life (QoL 37). Following the 8-week integrated yoga and naturopathy program, notable improvements were observed across all domains. Anxiety scores decreased to 15, depressive symptoms reduced to 12, and PTSD symptoms markedly declined to 26. Similarly, QoL improved with from 37 to 82, reflecting enhanced emotional well-being and coping ability. The patient reported subjective benefits including improved mood, better sleep, and increased resilience in dealing with postoperative challenges. No adverse events were recorded during the intervention period.

### Discussion

Postoperative liposarcoma patients frequently encounter psychological distress, including anxiety, depression, and trauma-related symptoms, which can impair rehabilitation and quality of life [8]. In the present case, an integrated yoga and

naturopathy intervention was associated with clinically meaningful improvements in validated measures of anxiety, depression, PTSD, and overall quality of life [9].

Previous studies have demonstrated the benefits of yoga in oncology care, particularly in breast, lung, and colorectal cancers, where yoga-based interventions were linked to reduced stress, improved mood, and enhanced well-being [10]. While the evidence base is still evolving, the mechanisms are thought to include autonomic regulation through breath practices, neuroendocrine modulation, and enhanced coping through mindfulness. Similarly, relaxation techniques and adjunctive naturopathy, such as mud therapy, may provide additional calming and restorative effects [11].

This case extends the application of yoga therapy to a rare malignancy, liposarcoma, where data are currently limited. The observed improvements highlight the potential for integrative approaches to complement conventional postoperative care. Nonetheless, as a single case, the findings cannot be generalized. Placebo effects, natural recovery, and psychosocial support may also have contributed to symptom

reduction. Controlled clinical trials with larger sample sizes are warranted to validate these observations and to clarify the role of yoga in oncological rehabilitation.

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## Conclusion

This case illustrates that yoga, combined with relaxation and naturopathy techniques, may serve as a safe and beneficial adjunct in managing psychological co-morbidities following liposarcoma surgery. Incorporating such integrative interventions into postoperative care could support recovery, improve quality of life, and enhance patient well-being. Further systematic research is needed to confirm these preliminary findings and to guide clinical integration.

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