

Case Report

Integrated Approach of Yoga and Naturopathy Treatments for Pain Relief and Quality of Life Enhancement in an Intervertebral Disc Prolapse Patient: A Case Report

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ABSTRACT

Intervertebral disc prolapse (IVDP), or herniated disc, is a common cause of chronic pain in the cervical and lumbar spine, often causing nerve irritation, radiating pain, and muscle weakness. Conventional treatments like NSAIDs, muscle relaxants, or surgery are common but may have side effects or complications, prompting interest in complementary approaches like yoga, naturopathy, and acupuncture for pain relief and improved quality of life. A 29-year-old woman with five months of chronic neck pain radiating to the right upper limb and lower back pain radiating to the left lower limb was evaluated. Her MRI showed angular Type-2 Modic changes at L4-L5, bilateral L5-S1 facet arthropathy, diffuse disc bulges at L4-S1, and disc bulges at C3-C6 causing anterior indentation of the spinal cord. Her work, involving long computer hours, contributed to her symptoms. After only partial relief from allopathic treatment, she sought an integrative approach combining naturopathy, yoga, and acupuncture. The 14-day protocol included: Hydrotherapy with a 10-minute ice compress on the spine to reduce inflammation. Yoga therapy, including Sukshma Vyayama (gentle neck exercises) and Shava-Udarakarshanasana series for spinal flexibility and tension relief. Acupuncture at specific points (GB 20, GB 21, UB 25, UB 26, and GV 4), with electrical stimulation on GB-20 and UB-26 for 20 minutes. Partial Swedish massage with hot fomentation to relax neck and back muscles. Isometric strengthening exercises for the neck and lower back. Results showed a significant reduction in pain, improved mobility, and enhanced quality of life, with decreased Visual Analogue Scale (VAS), Neck Pain Disability Index (NPDI), and Oswestry Disability Index (ODI) scores. This integrative, non-invasive approach combining hydrotherapy, yoga, acupuncture, massage, and strengthening exercises proved effective for chronic musculoskeletal pain associated with IVDP. Hydrotherapy helped with inflammation, yoga improved flexibility and mobility, and electroacupuncture provided targeted pain relief by addressing nerve irritation. Massage therapy and strengthening exercises supported muscle relaxation and pain reduction. These findings suggest that integrative therapies may be viable alternatives or complements to conventional treatments for chronic IVDP. Further research with larger populations is recommended to confirm the long-term benefits of this approach for pain management and functional improvement.

Key words: Intervertebral disc prolapse, Yoga therapy, Naturopathy, Acupuncture, Pain management, Quality of life, Holistic approach, Back pain

Intervertebral disc prolapse (IVDP), commonly known as a herniated disc, is a prevalent musculoskeletal condition that often results in significant pain and functional limitations. The lumbar and cervical spine are commonly affected, with disc prolapse causing irritation of nearby nerves, resulting in radiating pain, numbness, and muscle weakness. Patients with IVDP often experience reduced mobility, persistent lower back pain, and face limitations in daily activities [1].

Standard medical treatments for IVDP typically include

pharmacotherapy, physical therapy, and, in more severe cases, surgical intervention [2]. Non-steroidal anti-inflammatory drugs (NSAIDs) and muscle relaxants are widely prescribed to alleviate pain and inflammation, though long-term use can lead to side effects, such as gastrointestinal issues and cardiovascular complications [3]. While surgery can provide relief in cases with severe symptoms, it is an invasive approach that is not always necessary, and some patients may experience complications post-surgery [4]. These limitations have prompted both patients and clinicians to explore alternative and complementary treatment options that can

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offer pain relief and improve quality of life without adverse side effects. Research indicates that alternative therapies like yoga therapy and naturopathy affect the physical and mental well-being of patients with chronic low back pain and in individuals with spinal disc disorders. Yoga’s focus on posture, breath control, and mindfulness has been shown to reduce pain, increase spinal flexibility, and enhance overall functional capacity [5]. Naturopathy employs natural therapies, including hydrotherapy, dietary adjustments, physical manipulation, and acupuncture, to support healing Naturopathic treatments, particularly when combined with yoga, can be especially effective in managing musculoskeletal conditions like IVDP [6].

This case report illustrates the effectiveness of an integrative approach combining acupuncture, yoga, and naturopathy in managing pain and enhancing the quality of life in a patient with intervertebral disc prolapse. The findings suggest that such a holistic approach may provide a viable, non-invasive alternative to conventional treatments, addressing the root of symptoms and promoting overall well-being.

CASE PRESENTATION

A 29-year-old female presented to the Outpatient Department (OPD) at the International Institute of Naturopathy Sciences, Chengalpattu, with complaints of Chronic neck pain radiating to the right upper limb and Chronic lower back pain radiating towards the left lower limb for the past five months. The patient had a history of prolonged computer and writing work,

contributing to her chronic pain. Apart from disturbed sleep due to pain, other personal history mentioned were clear.

Magnetic Resonance Imaging is one of the most recommended diagnostic and assessment tools for the spine disorders [7]. On Magnetic Resonance Imaging (MRI) of spine, the following findings were revealed. Angular Type-2 Modic changes along the L4-L5 endplates indicating the chronic pain. Degenerative changes including Bilateral L5-S1 facet arthropathy , Diffuse disc bulge at the L4-S1 disc level, C3-C4, C4-C5, and C5-C6 levels, causing anterior indentation of the spinal cord were noted.

The patient was under Tablet. Gabapentin 300mg twice a day and Tablet. Pantoprazole 20mg once daily for 15 days, which provided partial relief from the pain. However, the pain radiating to the right upper limb and her left leg persisted while engaging in work, leading her to seek alternative therapies such as Naturopathy, Yoga, and Acupuncture.

The patient was assessed for the level of disability and pain associated with neck pain and lower back pain by the self-report questionnaire, Visual Analogue Scale (VAS), Neck Pain Disability Index (NPDI), Questionnaire and Oswestry Disability Index (ODI) version 2.1a, respectively. After the patient obtained written consent, an Integrated Naturopathy and Yoga intervention was given for 14 days and the progress was observed. All the treatments were performed for 14 consecutive days. The details of the intervention given to the patient are given in **Table 1**. The specific treatments included the following:

Table 1: Details of Naturopathy and Yoga Intervention

TREATMENTS	SPECIFIC THERAPIES	DURATION (mins)	RATIONALE	INTERVENTION LOCATION
Hydrotherapy	Ice compress (≈10 to 15°C)	10 mins	Reduce inflammation and alleviate pain	Cervical, Thoracic and Lumbar region (spinal and paraspinal)
Yoga therapy	Sukshma Vyayama	20 mins	Relieve spinal stress and enhance mobility	Neck
	Shava-Udarakarshanasana Series			Lower back
Acupuncture	Gall Bladder (GB) 21 (Bilateral)	20 mins	Relieve Nerve pathways and musculoskeletal tension, relief from the radiating upper and lower limb pain	At the highest point of the shoulder, at the midpoint between the 7th cervical vertebra (C7) and the lateral extremity of the acromion.
	Urinary Bladder (UB) 25 (Bilateral)			1.5 cun lateral to the posterior midline at the level of the lower border of the spinous process of the 4th lumbar vertebra (L4).
	Governing Vessel (GV) 4			On the posterior midline below the spinous process of the 2nd lumbar vertebra (L2).
Electro Acupuncture	Gall Bladder (GB) 20 (Bilateral)	20 mins	Relieve Nerve pathways and musculoskeletal tension, relief from the radiating pain in upper and lower limb	Lower border of the occipital bone, between the origins of the sternocleidomastoid and trapezius muscles.
	Urinary Bladder (UB) 26 (Bilateral)			1.5 cm lateral to the posterior midline at the level of the lower border of the spinous process of the 5th lumbar
Massage therapy	Swedish massage with Hot fomentation	10 mins	Enhance muscle relaxation and circulation over the area of application	Neck and lower back regions.

Strengthening exercise	Isometric exercises 1. Front neck resistance(10 reps) 2. Back neck resistance(10 reps) 3. Side neck resistance(10 reps) 4. Chin tuck with resistance(10 reps) 5. Glute bridge hold 6. Wall sit(10 reps)	10 mins	Enhance muscle strength	Neck and Lower back.
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After the 14-day course of intervention, the patient's pain and quality of life, assessed using the Visual Analogue Scale (VAS), Neck Pain Disability Index Questionnaire (NPDI) and Oswestry Disability Index (ODI) version 2.1a showed a significant improvement in scores which is given in **Table 2**. The VAS, NPDI and ODI scores decreased from very severe to mild, severe disability to no disability and severe disability to minimal disability respectively, reflecting improved physical performance and reduced disability. The overall results showed a significant reduction in pain and a marked improvement in functional mobility and overall quality of life.

Table 2: Results tabulated before and after intervention

Variables	Before treatment	After treatment
Visual Analogue Scale	7 (Very Severe)	1 (Mild)
Neck Pain Disability Index	52% (Severe Disability)	4% (No Disability)
Oswestry Disability Index	54% (Severe Disability)	10.9% (Minimal Disability)

DISCUSSION

The combination of naturopathy, yoga, and acupuncture proved to be an effective non-invasive therapeutic approach for managing chronic musculoskeletal pain in this patient as compared to the allopathic tablets that provided only partial and short-term pain relief. The ice compress focused on reducing inflammation and alleviating pain [8], while yoga relieved spinal stress and enhanced mobility [9]. Electro-acupuncture, especially in targeting specific acupoints associated with nerve pathways and musculoskeletal tension, provided relief from the radiating upper and lower limb pain. GB-20 may work through the regulation of autonomic nervous system activity, particularly by influencing parasympathetic pathways. It has been associated with improvements in blood circulation to the brain and decreased muscle tension, providing relief for tension headaches and migraines [10].

GB-21 can trigger the release of neurotransmitters such as endorphins, which help to reduce pain. It also has been observed to modulate sensory inputs and alter pain perception, contributing to its effectiveness in relieving muscle tightness and stress-related disorders [11]. UB-25 is an essential local point for treating both acute and chronic lumbar conditions. It is highly effective in treating lower back pain by affecting local muscle and nerve pathways [12]. UB-26 is effective for Low back pain, with mechanisms tied to neuromuscular

modulation and improving circulation in the lumbar region [13]. GV-4 helps in Managing lower back pain, possibly by modulating pain perception pathways and enhancing blood circulation in the lumbar region [14].

The inclusion of Swedish massage with a hot compress to relieve pain and enhance muscle relaxation and isometric exercises enhance muscular strength, contributing to overall pain relief and recovery [15]. This integrative approach aligns with the growing trend toward non-pharmacological interventions for chronic pain management, especially in conditions involving spinal disc degeneration and facet arthropathy. However, limitations such as the lack of control groups and the absence of long-term follow-up data make it difficult to definitively assess the effectiveness of these interventions. Future research should include randomized controlled trials with larger sample sizes, objective outcome measures and long-term follow-ups to better evaluate the sustained impact of these treatments.

CONCLUSION

This case highlights the potential benefits of combining multiple complementary therapies, such as naturopathy, yoga, and acupuncture, in managing chronic neck and lower back pain. The significant improvement in the patient's symptoms, particularly the reduction in radiating leg pain and increased functional mobility, suggests that these non-invasive methods could serve as effective alternatives or adjuncts to allopathic treatment in chronic musculoskeletal conditions. Further studies with larger sample sizes are recommended to validate these findings and explore the long-term efficacy of such integrated approaches in pain management.

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