

Recent Approach & Clinical Management of PIVD in Lumbar Region Causing Pain & Disability with Multidisciplinary physiotherapy Treatment

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Abstract:

Lumbar disc herniation, also known as a prolapsed intervertebral disc (PIVD), is a common spinal condition that can cause severe pain and functional limitations. Traditional approaches to managing lumbar PIVD often involve surgical interventions or pharmacological treatments. However, there is a growing body of evidence supporting the effectiveness of multidisciplinary physiotherapy in reducing pain and improving functionality in patients with lumbar PIVD. This paper presents a novel approach to the clinical management of lumbar PIVD through a multidisciplinary physiotherapy treatment program.

Index terms- lumbar spine, Low back pain, PIVD, Disc prolapse, VAS scale.

Introduction:

Lumbar PIVD is a prevalent condition characterized by the displacement of the intervertebral disc, leading to compression of the spinal nerves and subsequent pain and functional impairments. Traditional treatment options for lumbar PIVD include surgical interventions, such as discectomy or laminectomy, and pharmacological treatments, such as nonsteroidal anti-inflammatory drugs (NSAIDs) or opioids. However, these approaches may have limitations, including potential risks, high costs, and variable outcomes. Multidisciplinary physiotherapy has emerged as a promising alternative for the clinical management of lumbar PIVD due to its non-invasive nature and potential for holistic care.

Aim of work:

The goal of this study on PIVD is to improve understanding of the condition & develop more effective treatment options.

Patient's information- The patient was a 34 year male with complaints of low back pain since 2 year which was 7 on VAS scale. The patient had intermittent attacks of pain with period of total relief. He had early morning stiffness. Past history of the patient revealed that while he was lift a heavy object he experienced a jerk while lifting a calendar. Since then he was generalized back pain. He took rest for few days because the pain was very severe & the patient was not even able get up from the bed. He also visited in my clinic (K.D-

physiotherapy clinic) he was relieved by physiotherapy & medicines but the pain use to reoccur. MRI was done which relieved L4 &L5 bulging disc prolapse.

Clinical finding following the patient’s informed consent, a physical examination was performed. On general examination back pain, numbness &tingling, muscles weakness, reduced range of motion, positive straight leg raise test (SLR), and sensory changes.

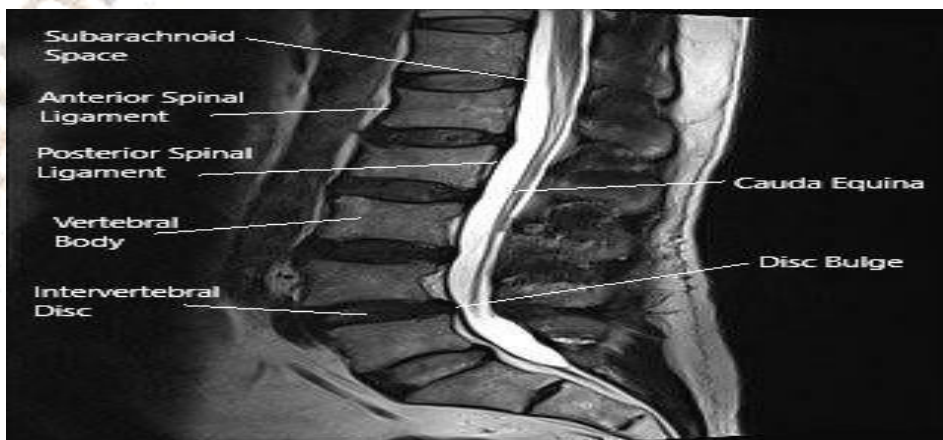
Pain was 7 on VAS scale the pain was pricking type of pain. Tenderness was present over the lumbar region.

Posture: on examination there was slight postural deviation.

Muscle power: On clinical examination, we found that the muscle power was grade 2.

Special test: SLR TEST was positive unto 25degree & SLUMP TEST was positive for LBP &pain in the legs.

INVESTIGATION: Magnetic resonance imaging (MRI) was done with indicated PIVD at the level of



L4, L5&S1.

Fig-1: Showing disc bulge

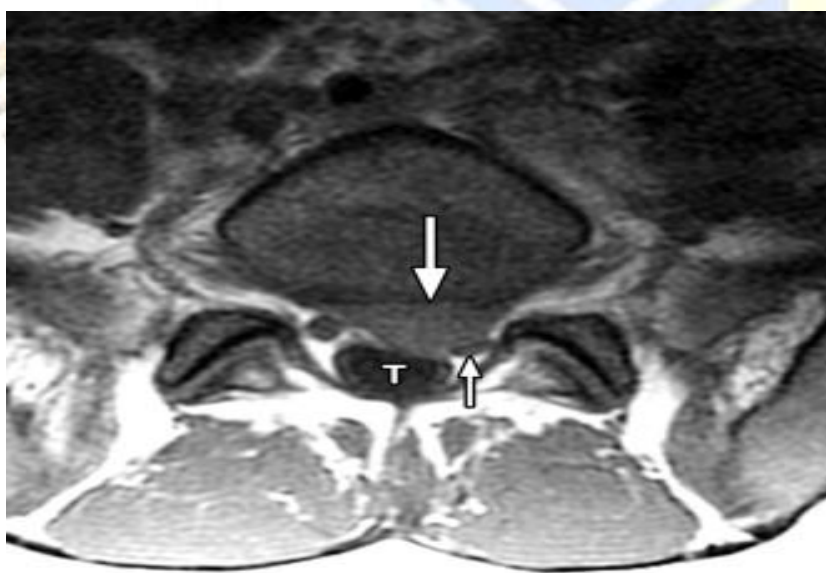


Fig-2: axial view

Treatment:

My priority was to reduce pain, spasm & promote relief to the patient. We started first with hot pack to the lumbar region of the patient. It provides relaxation to the patient. After that I started with exercise that in those SLR (10-30 degree, 45-60 degree, 70-80 degree) strengthening ex's, (abdominal strengthening, gluteus strengthening), various types of individual muscle stretching, physical therapy, McKenzie based exercise, IFT (interferential therapy) & UST (ultra-sound therapy). After that I instructed the patient to get up from the side lying & I suggested that he walks & travels, he will wear a Lumbo-Sacral belt.

McKenzie based exercise (step by step): The goal of the McKenzie based exercises was to improve the posture of the patient & to minimize the pain



Fig:3 shows 1st step of spinal extension exercise



Fig:3 shows 2nd step of spinal extension exercise



Fig: shows 3rd step of spinal extension exercise

Modalities:

For the purpose of pain control & patient comfort, IFT with moist heat was providing to the low back pain. The IFT was determined in a study of patients with low back pain to provide substantially greater subjective & objective pain relief.

Manual therapy:

Manual therapy has been used to treat pain and to relax muscles. In the lower back and gluteal zone. It helps to decrease discomfort and to improve mobility.

Strengthening and stretching exercises:

Strengthening and stretching began after one week. Gentle stretching and mobility activities were included. To increase strength and enhance posture, strengthening exercises were conducted. Strengthening exercises were administered to strengthen the hip and core strength of the patient. Stretching exercises have been carried out to improve the mobility of the patient and alleviate functional improvement. When symptoms were under control, commenced low impact exercise for fitness and to prevent further pain in future. By incorporating resistance, such as a TheraBand, further exercises were advanced.

Home exercise program:

In addition to the forms of treatment given at physiotherapy sessions, the patient was also taught exercises to start a home exercise program (HEP) by applying heat at home. The importance of the home exercise program, especially the McKenzie extension exercises. The patient said that aggravating pain is reduced. Capacity to function has been restored and sleeping has also.

Methods:

This study proposes a multidisciplinary physiotherapy treatment program for patients with lumbar PIVD. The program involves a collaborative effort between physiotherapists, pain specialists, and other healthcare professionals to address the multifaceted nature of lumbar PIVD. The treatment program includes a combination of manual therapy techniques, therapeutic exercises, education, and psychological interventions to target pain reduction and improve functionality. The program is tailored to individual patient needs and is implemented over a specified duration, with regular assessments to track progress.

Results:

Preliminary studies have shown promising outcomes with multidisciplinary physiotherapy in the management of lumbar PIVD. These studies have reported significant reductions in pain intensity, improved functional abilities, and enhanced quality of life in patients who underwent the treatment program. The multidisciplinary approach allows for a comprehensive assessment and treatment of the physical, psychological, and social factors contributing to the patient's condition, leading to improved outcomes.

Conclusion:

The proposed multidisciplinary physiotherapy treatment program offers a novel approach to the clinical management of early physiotherapy rehabilitation lead to enhancement in functional goals of patient which stands a major understanding towards a successful recovery & improves quality of life.

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