Primary topic: Musculoskeletal; spine
2nd topic: Neurology
3rd topic: Orthopedics

Title: Mobilization With Movement Versus Neural Mobilization For Treatment Of the Discogenic Lumbosacralradiculopathy

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Text:Background: Low back pain (LBP) is an extremely common problem leading to activity limitation, work absence and economic burden on families, communities, industries and government. The Mulligan concept of Mobilization With Movement is known to increase joint range of motion, and enhance muscle function. Neural mobilization is designed to increase the flexibility of collagen that maintains the integrity of the nerve, thereby improving movement of the nerve in relation to its interface. Limited research evidence is available for the efficacy of specific conservative techniques used by physiotherapists for patients with LBP.

Purpose: We aimed to compare the effects of Mulligan mobilization with movement versus neural mobilization on discogenic lumbosacral radiculopathy regarding symptomatic and functional improvement.

Methods: This prospective study was conducted in the department of physical therapy of El-Gomhoria general hospital. It involved 40 patients, 30 to 45 years old with unilateral discogenic lumbosacral radiculopathy. They were randomly allocated into one of two equal groups. Group A (n=20) received 12 sessions of neural tissue mobilization over the symptomatic lower limb over a period of four weeks. Group B (n=20) received Spinal Mobilization With Leg Movement (SMWLM) over the L4/L5 vertebrae for 12 sessions over four weeks. Patients were assessed before and just after the 12-session treatment regimen. Assessment involved measurement of H-reflex amplitude and latency and application of Straight Leg Raise (SLR) test, Modified Schober's test, and Oswestry low back disability questionnaire.

Results: The H-reflex amplitude and latency increased significantly after treatment in the two groups (p < 0.001 for both). The percentage of change of the H-reflex amplitude and latency was comparable in the two groups (p = 0.640 and p = 0.495, respectively). In the two groups, the SLR test values increased significantly after treatment (p < 0.001 for both); their

percentage of change was comparable in the two groups (p = 0.565). Similarly, in the two groups, the value of Modified Schober's test for flexion and extension increased significantly after treatment (p < 0.001 for both). The percentage of change of Modified Schober's test for flexion and extension in the two groups were comparable (p = 0.429 and p = 0.904). In the two groups, Oswestry scores decreased significantly after treatment (p < 0.001) and their percentage of change in the two groups were comparable (p = 0.121).

Conclusion(s): In patients with unilateral discogenic lumbosacral radiculopathy, neural tissue mobilization and Mulligan mobilization are equally effective for pain reduction and functional improvement.

Implications: Success of neural tissue mobilization and Mulligan mobilization in symptomatic relief and functional improvement of lumbosacral radiculopathy implies the possible use of a combined treatment modality of these cases if proved to be effective of long-term basis.

Key-Words: mobilization with movement, neural mobilization, H-reflex.

Ethics approval:YES

Institution: Cairo University

Ethics Committee: research ethical committee of faculty of physical therapy

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