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Complete Management in Romanian Patients With Locomotive Syndrome

Topic: Pharmacological Agents

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BACKGROUND

Locomotive Syndrome (LoS), a newly proposed concept in aging, refers to individuals who experience mobility difficulties (e.g., walking, sit-to-stand movements, climbing stairs, performing activities of daily living, and housework within the home) due to impairments in locomotive organs. These individuals face a significantly higher risk of requiring nursing care compared to those without such difficulties. Musculoskeletal ambulation diseases, such as osteoporosis, osteoporosis-related fractures, osteoarthritis, spondylosis, early stages of lumbar spinal stenosis (LLS), sarcopenia, and neural disorders, are often included in the definition of LoS.

This prospective, randomized, controlled study aimed to investigate whether a comprehensive management approach (including ProHumano-SpineDinamic therapy—1 tablet daily for 3 months—and a rehabilitation program comprising TENS, deep oscillation therapy, and mixed kinetic training involving resistance, aerobic, and proprioceptive exercises for 12 daily sessions, followed by an adapted home-training program) could improve functional status and quality of life in patients with LoS.

METHODS

The study included 48 patients with LoS (aged 75–86 years; 30 females, 18 males). All patients, previously diagnosed with early-stage lumbar spinal stenosis, osteoarthritis, and osteoporosis, underwent comprehensive evaluation before the rehabilitation program and were categorized as Stage 1 or Stage 2 of LoS. Patients were randomly assigned equally to an experimental group (EG), which received the complete program, or a control group (CG), which received only the rehabilitation program without SpineDinamic therapy. Improvements in pain (the Visual Analog Scale - VAS), functional status (the Basic Activities of Daily Living - Katz Index), and overall locomotor function (the 25-question Geriatric Locomotive Function Scale - GLFS-25) were compared. Outcomes were measured at baseline and post-rehabilitation using a patient-centered model that accounted for the specifics of each comorbid condition. Statistical analysis was performed using SPSS Statistics 22.0.

RESULTS

Both groups demonstrated an improving trend across all parameters. The VAS score decreased significantly in the EG compared to the CG ($p < 0.001$ and $p = 0.004$, respectively). Functional status showed significant improvements in the EG. Post-rehabilitation, between-group differences were statistically significant ($p < 0.05$), particularly regarding pain and the Katz Index.

CONCLUSION

Our results support the established benefits of exercise programs on clinical and functional status in elderly patients with LoS. Combining SpineDinamic therapy with a rehabilitation program may further enhance pain perception and quality of life, likely due to SpineDinamic's effects on the peripheral nervous system and musculoskeletal health.

Statement of Disclosures

None

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