



The Effect Of Osteopathic Manipulative Treatment On Lower Limb Muscle Rigidity in a Parkinson's Patient



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Case Diagnosis

Lower limb muscle rigidity secondary to Parkinson's Disease

Case Description

A 66-year-old male with a history of Parkinson's Disease (PD) presented with pain and stiffness in his right foot, ankle, and Achilles tendon. He was significantly restricted in mobility and reported localized numbness/tingling. The physical exam of his right ankle revealed erythema, edema, and a limited range of motion (ROM) in dorsiflexion. Osteopathic manipulative treatments (OMT) targeting his rigidity included muscle energy and articular techniques. On subsequent visits, the patient claimed to have complete pain resolution, improved function, and ability to exercise without restrictions.

Discussion/Conclusion

As a progressive neurodegenerative disease, PD imposes a severe mental, physical, and emotional toll on a patient's wellbeing. The current management for PD includes dopaminergic drugs that target motor dysfunctions. However, continuous use of these drugs may lead to serious adverse effects, especially over long periods. As seen in this PD patient, the holistic approach of OMT may prove to be a safe and non-invasive treatment option with minimal side effects. While OMT has been shown to decrease pain, increase ROM of rigid joints, and improve posture, gait, and balance, little research has been conducted that specifically assesses the viability of OMT in PD patients with lower limb muscle rigidity. Considering its potential benefits, OMT should be investigated as a viable treatment option or adjunct for patients with PD experiencing lower limb muscle rigidity.

The significant improvement experienced by this patient warrants future studies, with a larger sample size of various PD populations, to validate the effectiveness of OMT on PD patients experiencing lower limb muscle rigidity.

Interventions

Somatic Dysfunction	Osteopathic Manipulative Treatment
Cervical vertebrae (C3ERRSR)	Balanced Ligamentous Tension (BLT), Muscle Energy (ME)
Thoracic vertebrae (T4-T7FRLSL)	BLT, Myofascial Release (MFR)
Lumbar vertebrae (L1-L5ERRSR)	BLT, ME, MFR
Hypertonic soleus	ME
Hypertonic gastrocnemius	ME
Posterior fibular head	ME
Anterior Talus	ME, Articular

Results

	Initial Goniometer Measurement	Post-Treatment Goniometer Measurement	Initial Pain Scale	Post-Treatment Pain Scale
First Visit	9-10° Dorsiflexion of Right ankle	20° Dorsiflexion of Right ankle	2/10	0/10
Second Visit	18° Dorsiflexion of Right ankle	20° Dorsiflexion of Right ankle	0/10	0/10
Third Visit	20° Dorsiflexion of Right ankle	20° Dorsiflexion of Right ankle	0/10	0/10

