INTRODUCTION

Parkinson disease (PD) is a progressive disorder of the nervous system that affects mobility, balance, and cognition. Levodopa, the mainstay of treatment for PD, can be effective for these symptoms. Over time, however, PD medication loses its effectiveness and individuals experience fluctuations in motor function, dyskinesia, and dystonia. Additional treatment options are needed.

Osteopathic Manipulative Medicine (OMM) is a therapy of manual forces used to diagnose and treat somatic dysfunctions, thereby improving function and restoring homeostasis. A variety of different techniques can be used to treat different areas of restriction and the treatment protocols are derived using the five models of manipulation (Figure 1). 1-3

OBJECTIVES

The objective of this study is to evaluate the effects of a 6-week pre-defined Osteopathic Manipulative Medicine (OMM) treatment protocol (PARK-OMM) as compared to a 6-week controlled counseling period on motor function and balance in subjects with PD.

These effects were measured using the following tools:

1. Movement Disorder Society-Unified Parkinson’s Disease Rating Scale (MDS-UPDRS) Part III scores:
   - Assesses motor symptoms and signs in PD.
   - Gait and balance subcales have a large impact on subjective reporting of PD symptom severity and functional impairment due to PD. 4

2. Neurocom Balance Master: Standard Organization Test (SOT) (Figure 2):
   - Can be used to estimate postural control and balance, and to access gait problems and risk of falling.
   - Measures three different aspects of balance and posture: somatosensory, visual, and vestibular. 5

   - Measures sensory organization, anticipatory postural adjustments, postural responses, and dynamic balance.
   - A significant predictor of recurrent falls in patients with PD. 6

METHODS

Participants

Subjects were randomly assigned to one of two groups: Group 1: Counseling, OMM (n=5); Group 2: OMM, Counseling (n=5) (See Table 2). Inclusion Criteria: (See Table 1).

Design: This study was conducted in a repeated measures design with counterbalancing to control for order effect. Subjects were randomly assigned to one of two groups:

- Week 1 to 6: Weekly Counseling (See Table 2).
- Week 7 to 12: 6-week OMM (See Table 2).

Figure 3: Protocol Schema

Table 1 (above): OMM Protocol for 30 minute bi-weekly sessions, “MET” Muscle Energy Technique

<table>
<thead>
<tr>
<th>Session</th>
<th>Description</th>
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<tbody>
<tr>
<td>1-6</td>
<td>Counseling</td>
</tr>
<tr>
<td>7-12</td>
<td>OMM</td>
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Table 2: Weekly 15-20 minute Counseling Sessions

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RESULTS

OMM treatment bi-weekly for 6 weeks was well tolerated by our subjects. Our results from this pilot study showed improvement in motor function following 6 weeks of bi-weekly OMM treatments. There were no significant changes in balance; however, there were clinically relevant improvements after 6 weeks of OMM. Our findings suggest that our OMM protocol may be a complementary approach to improving balance and motor function in individuals with PD. To date, this is one of the first studies investigating long term effects of OMM on motor function and balance in PD.

A current limitation to this study is the small sample size. Also, at this time, it is uncertain if there was a reduction in the number of falls for each subject during the study and we hope to address these limitations through continued accrual and data collection.

Future research should further investigate the application of OMM in improving motor function and balance in PD. By doing so, we may be able to offer an additional treatment option to help improve not only balance function, but also quality of life for individuals suffering from PD.

REFERENCES


