The Effectiveness of LSVT-BIG and PWR! Programs on a Patient with Parkinson’s Disease: A Case Report

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The Effectiveness of LSVT-BIG and PWR! Programs on a Patient with Parkinson’s Disease: A Case Report

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INTRODUCTION

- Lee Silverman Voice Treatment- BIG (LSVT-BIG) and high-intensity training improve gait speed and balance deficits, only limited research exists on the impact of the Parkinson’s Wellness Recovery (PWR!) program on Parkinson’s Disease symptoms.
- Thus, LSVT-BIG and PWR! should be explored in tandem as a standardized course of treatment for patients with Parkinson’s disease.

CASE DESCRIPTION

Patient Profile
- 74 y/o male; retired woodworker with 7-year hx of PD
- Taking Sinemet (3 times a day)
- H&Y Stage II
- PMH: Rectal adenocarcinoma, HTN, B Hernia Repair

Body Structure/Function Impairments
- B upper extremity tremors and bradykinesia. L>R
- Mild cogwheel rigidity in B UE. L>R
- Gait instability and balance deficits
- Mild thoracic kyphosis and forward head posture
- Decreased lumbar ROM

Activity Limitations
- Safety with car transfers
- Bed Mobility
- Scooting with chair

Participation Restrictions
- Photography
- Gardening
- Rock Steady Boxing

METHODS

Frequency and Duration
- 4x/week for 4 weeks, 1-hour LSVT-BIG, PT/OT sessions
- Followed by 1-2x/week for 4 weeks, 1-hour PWR! sessions

RESULTS

Functional Limitations and Outcome Measures of the Study

<table>
<thead>
<tr>
<th>Patient Reported Functional Limitations</th>
<th>Initial Evaluation</th>
<th>Post-LSVT-BIG (11/4/19)</th>
<th>Post-PWR! (12/12/19)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bed Mobility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Requires greater time rolling to R and transfer supine &lt;&gt; EOB</td>
<td>Reduced time for supine &lt;&gt; EOB</td>
<td>Able to roll L and R without difficulty</td>
<td></td>
</tr>
<tr>
<td>Car Transfers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate limitation, requires assistance or greater time</td>
<td>3/5 transfers without LOB</td>
<td>5/5 transfers without LOB</td>
<td></td>
</tr>
<tr>
<td>Outcome Measures</td>
<td>Initial Evaluation</td>
<td>Post-LSVT-BIG (11/4/19)</td>
<td>Post-PWR! (12/12/19)</td>
</tr>
<tr>
<td>Timed Up and Go (TUG)</td>
<td>13.21 s</td>
<td>13 s</td>
<td>11 s</td>
</tr>
<tr>
<td>TUG Cognitive</td>
<td>24.11 s with freezing</td>
<td>15 s</td>
<td>11 s</td>
</tr>
<tr>
<td>TUG Manual</td>
<td>14.7 s</td>
<td>14 s</td>
<td>10 s</td>
</tr>
<tr>
<td>5xSTS</td>
<td>12.9 s</td>
<td>12 s</td>
<td>9 s</td>
</tr>
<tr>
<td>Mini-BEST</td>
<td>13/28</td>
<td>---</td>
<td>25/28</td>
</tr>
<tr>
<td>3m Backward Walk Test</td>
<td>12.7 s</td>
<td>7 s</td>
<td>5 s</td>
</tr>
<tr>
<td>Timed 360° Turn</td>
<td>R 4.6 s, L: 8.1 s</td>
<td>---</td>
<td>R: 4 s, L: 4.8 s</td>
</tr>
</tbody>
</table>

Fig. 1. Mini BEST (Balance Evaluation Systems Test) Incline Assessment

Fig. 2. Hurdle Step Over

REFERENCES

CONCLUSION

A consecutive 24 sessions of LSVT-BIG and PWR! demonstrated clinically meaningful improvements in gait, balance, and functional mobility. This combinatory approach can be used enhance function in patients with PD.

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