The Use of Tai Chi with Conventional Therapy Practices for an Individual Presenting with Hemiparesis Post-Stroke: A Case Report

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Background
- A cerebrovascular accident (CVA) or stroke is an event where a sudden death of brain cells occurs due to a lack of oxygen.
- The two types of stroke are ischemic and hemorrhagic (87% of all strokes are ischemic).
- More than 795,000 people have a stroke each year in the United States.
- The risk factors for stroke are: high blood pressure, high cholesterol, smoking, obesity, diabetes, and 65 years of age or older.
- Tai chi is used to promote balance and functional mobility in stroke patients.

Purpose
The purpose of this case report was to explore the potential benefits of Tai Chi in combination with conventional therapy practices for individuals who are post-stroke.

Case Description
- 86 year old male status post right middle cerebral artery ischemic stroke.
- Comorbidities: orthostatic hypotension, Olgilvie syndrome, congestive heart failure, atrial fibrillation, and arthritis.
- Prior level of Function: Fully independent
- Chief Complaints: global weakness of left half of body, decreased endurance/stability during functional tasks.
- Goals: To return to prior level of function to decrease caretaker burden on his wife.

Interventions
Interventions: global upper extremity/lower extremity strengthening, balance training, gait training, functional mobility training, and Tai Chi.

Results

<table>
<thead>
<tr>
<th>Tests</th>
<th>Initial Evaluation</th>
<th>Discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Range of Motion</td>
<td>L UE: WFL</td>
<td>L UE: Approximately 130 degrees of shoulder flexion and abduction</td>
</tr>
<tr>
<td>L LE: WFL</td>
<td>L UE: WFL</td>
<td>L UE: WFL</td>
</tr>
<tr>
<td>Manual Muscle Testing</td>
<td>R UE: WFL</td>
<td>R UE: WFL</td>
</tr>
<tr>
<td>L UE: Not assessed</td>
<td>L UE: 4- globally</td>
<td></td>
</tr>
<tr>
<td>L LE: 3+ Hip Flexor, 4 Quadriceps, 4 Hamstrings, 5 Ankle DF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Time Sit to Stand Test</td>
<td>20 Seconds</td>
<td>10 Seconds</td>
</tr>
<tr>
<td>Modified Clinical Test of Sensory Interaction in Balance</td>
<td>Total Score: 60/120 seconds</td>
<td></td>
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</tbody>
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Discussion
- Based on results of the outcome measures, it appears as though the combination of Tai Chi with conventional therapy practices is beneficial in treating functional limitations post stroke.
- His chief complaints of global left sided weakness and decreased endurance/stability during functional tasks were improved by discharge.
- The patient agreed to transfer to a skilled nursing facility to address remaining impairments.
- With the population size of the geriatric community growing, and the increasing likelihood of these individuals having a stroke, it is imperative that research in the acute care setting be conducted in order to maximize the functional return of hemiparetic limbs and to increase functional mobility independence.
- Future research is warranted to investigate the possible benefits of Tai Chi use in the acute care setting.

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References