Physical Therapy Management of a Patient with a Lacunar Stroke and Multiple Comorbidities: A Case Report

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Background

- Strokes are the fourth leading cause of death and the number one cause of long-term disability in the United States.
- A lacunar infarct is a type of ischemic stroke that occurs within the deepest structures of the brain when one of the small arteries gets blocked.
- Risk factors for a lacunar stroke include older age, high blood pressure, smoking, excessive alcohol consumption, poor diet, and obstructive sleep apnea.

Purpose

- To describe the plan of care for a patient with a lacunar infarct and multiple comorbidities in a long-term care facility with the goal of helping the patient achieve independent functional mobility so that she can return home.

Case Description

- 70 y/o female
- Acute lacunar left internal capsule infarct
- PT services 60-75 minutes a day for six days a week

Tests & Measures

<table>
<thead>
<tr>
<th>Rolling</th>
<th>Initial Evaluation</th>
<th>Discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supine to Sit/Stand</td>
<td>ModA of 2</td>
<td>Independent</td>
</tr>
<tr>
<td>Sit to Stand</td>
<td>ModA of 2</td>
<td>Independent</td>
</tr>
<tr>
<td>Stand Pivot Transfer</td>
<td>ModA of 1</td>
<td>SBA</td>
</tr>
<tr>
<td>Wheelchair Mobility</td>
<td>60 ft. with supervision using L LE and L UE</td>
<td>&gt; 250 ft., independently using B LE and/or B UE</td>
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</tbody>
</table>

Gait

- Unsteady gait with a step-to-pattern and ModA of 2.
- Distance walked: 6 ft. with L UE support using parallel bars and R UE supported by the therapist. A second therapist provided Mod A from behind.
- Reciprocal gait pattern using a straight cane with her left hand and Mod A of 1-CGA.
- Distance walked: > 250 ft. both indoors and outdoors.

Outcomes

- After seven weeks, the patient improved her sitting and standing balance, LE strength, activity tolerance, bed mobility, transfers, and gait.
- Progressed from ambulating with the use of a right platform walker and Mod A of 1 to ambulating with the use of a straight cane and Mod A of 1-CGA.

Discussion

- The PT interventions utilized in the plan of care improved the patient’s functional mobility and allowed her to return home under the care of her son.
- The patient’s comorbidities likely contributed to a plateau in progress.
- The interventions used were not specific to a lacunar stroke which may have impacted progress.
- Future research should attempt to determine the most effective interventions for patients with a lacunar infarct who also have multiple comorbidities.

Interventions

- Chronic Hypoxia
- Type II Diabetes
- Pituitary Adenoma
- E. coli UTI
- Obesity
- Anxiety
- GERD
- Asthma

Therapeutic Exercise

- Seated LE strengthening
- Standing LE strengthening
- Nu-Step

Therapeutic Activities

- Bed mobility
- Transfer training
- Patient education

Neuromuscular Re-Education

- Dynamic sitting balance
- Static standing balance

Gait Training

- Overground gait training
- Community ambulation
- Stair training

Comorbidities

References


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