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 and 140,000 of those die
- 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

https://www.hopkinsmedicine.org/health/conditions-and-diseases/cerebral-aneurysm

Purpose

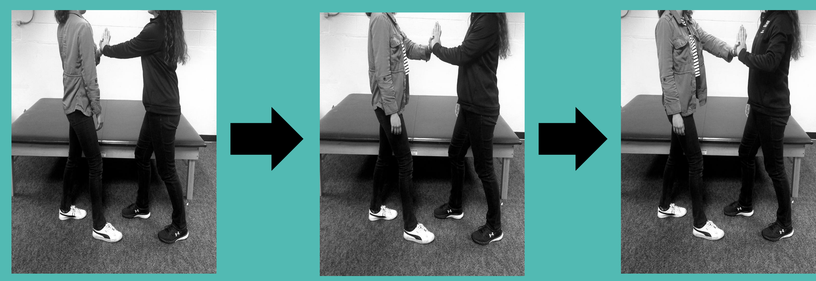
The purpose of this case report was to explore the potential benefits of Tai Chi in combination with conventional therapy practices for individuals who are post-stroke.

Case Description

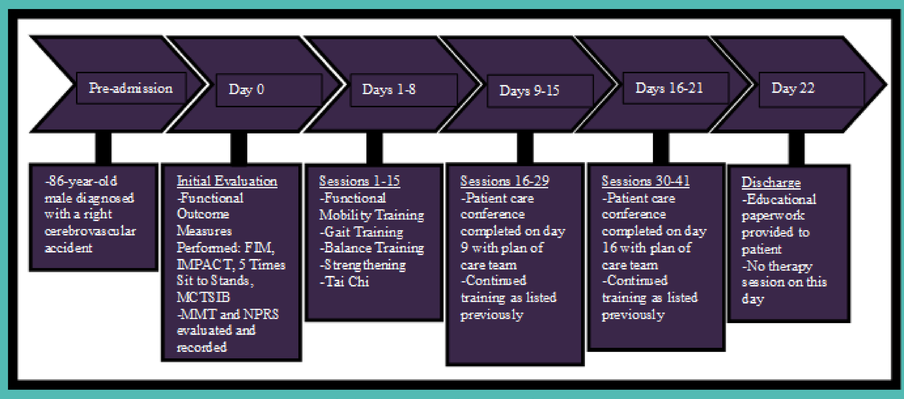
- 86 year old male status post right middle cerebral artery ischemic stroke
- Comorbidities: orthostatic hypotension, Ogilvie syndrome, congestive heart failure, atrial fibrillation, and arthritis
- Prior level of Function: Fully independent
- Chief Complaints: global weakness of left half of body, decreased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

Systems Review	Results
Cardiovascular/Pulmonary	Impaired: Orthostatic hypotension, atrial fibrillation, congestive heart failure
Musculoskeletal	Gross strength: Impaired Active range of motion for bilateral lower extremities: Not impaired Active range of motion right upper extremity: Not impaired Active range of motion left upper extremity: Impaired
Neuromuscular	Bilateral lower extremities: Not impaired Right upper extremity: Not impaired Left upper extremity: Impaired, decreased muscle tone present
Cognition, Integumentary	Not Impaired

Interventions



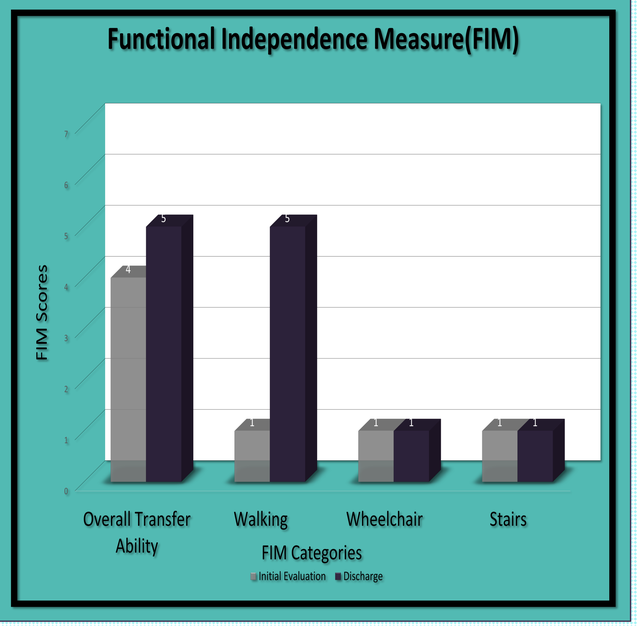
Interventions: global upper extremity/lower extremity strengthening, balance training, gait training, functional mobility training, and Tai Chi



Images from https://www.cannypic.com/free-vector/vector-of-tai-chi-silhouettes-399851

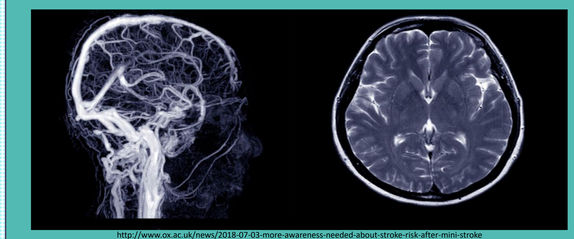
Results

Tests	Initial Evaluation	Discharge
Active Range of Motion	R UE: WFL L UE: Approximately 20 degrees of shoulder flexion and abduction R LE: WFL L LE: WFL	R UE: WFL L UE: Approximately 130 degrees of shoulder flexion and abduction R LE: WFL L LE: WFL
Manual Muscle Testing	R UE: WFL L UE: Not assessed R LE: 3+ Hip Flexor, 4 Quadriceps, 4 Hamstrings, 5 Ankle DF L LE: 3+ Hip Flexor, 4- Quadriceps, 4- Hamstrings, 5 Ankle DF	R UE: WFL L UE: 4- globally R LE: 4 Hip Flexor, 4+ Quadriceps, 4+ Hamstrings, 5 Ankle DF L LE: 4 Hip Flexor, 4+ Quadriceps, 4+ Hamstrings, 5 Ankle DF
5 Time Sit to Stand Test	20 Seconds	10 Seconds
Modified Clinical Test of Sensory Interaction in Balance	Total Score: 60/120 seconds Description: Moderate level of postural sway presented in both completed conditions.	Total Score: 120/120 seconds Description: Minimal level of postural sway present in all completed conditions.



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.



http://www.ox.ac.uk/news/2018-07-03-more-awareness-needed-about-stroke-risk-after-mini-stroke

Signs of a Stroke	
B- Balance	Watch for sudden loss of balance
E- Eyes	Check for vision loss
F- Face	Look for an uneven smile
A- Arms	Check if one arm is weak
S- Speech	Listen for slurred speech
T- Time	Call 911 right away

Acknowledgements

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