

Effectiveness of Tens in Reducing Postural Instability in Stroke Patients with and without Neglect- An Experimental Study

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Abstract:

Objective: The purpose of the study is to find the effectiveness of TENS in reducing postural instability in stroke patients with and without neglect.

Methodology: STUDY DESIGN: Experimental study, SAMPLE SIZE: 30 Samples, STUDY SETTING: Vijaya hospital and home based study.

Procedure: 30 patients were selected based on the selection criteria in that 15 stroke patients with neglect and 15 stroke patients without neglect.

Conclusion: This study was done on 15 stroke patients with neglect and 15 stroke patients without neglect who is scoring 1 in unsupported sitting of berg balance scale were selected to apply TENS

I. INTRODUCTION

Stroke is the clinical designation for a rapidly developing loss in brain function due to an interruption in the blood supply to all or parts of the brain. This phenomenon can be caused by thrombosis, embolism, or haemorrhage.

Neglect is a phenomenon, which may occur after damage (whether from stroke, trauma or other causes) to either hemisphere of the brain, although it is more common in right hemisphere damage.

Unilateral neglect (aka hemispatial neglect) is the failure to perceive stimuli coming from the left side. These stimuli may be auditory, visual, and tactile. In other words, the patient acts as if the left side of his world had ceased to exist.

Unilateral neglect is a behaviour that results from damage to the parietal lobe of the brain. It is rather bizarre condition where a sufferer will tend to ignore anything that is located in one particular half, or spatial hemisphere. The immediately apparent cause in lesion to a particular brain hemisphere.

The main difficulty with neglect is in rehabilitation which as a necessity should begin as soon as possible after the stroke during the 'window of plasticity'. TENS can be used to reduce neglect manifestations. Improvements have been obtained in

tactile perception spatial exploratory tasks and purely mental representations.

II. NEED OF THE STUDY

This study is to find the effectiveness of TENS in reducing postural instability in stroke patients with and without neglect.

III. AIM OF THE STUDY

The purpose of the study is to find the effectiveness of TENS in reducing postural instability in stroke patients with and without neglect.

IV. METHODOLOGY

Study Design: Experimental study

Sample Size: 30 Samples

Study Setting: Vijaya hospital and home based study.

Inclusion Criteria:

- Acute and subacute patient with stroke (with and without neglect)
- Both sexes age of 42-65 years.
- Only patients who is scoring 1 as per berg balance scale (unsupported sitting).

Exclusion Criteria:

- Psychiatric disorder.
- Sensory disorder.
- Orthopaedic disability
- Cardiac pacemaker
- Chronic stroke

V. PROCEDURE

30 patients were selected based on the selection criteria in that 15 stroke patients with neglect and 15 stroke patients without neglect.

Patient position:

High sitting in plastic chair with arm and back support and foot should be rested on the floor.

Technique:

- Gel should be applied to the two electrodes.
- Electrodes should be placed over the neck of contralesional side.
- Micropore tape should be applied over the two electrodes.

Intensity:

Below the motor threshold, short –pulse duration.

Duration: 20 minutes

Sittings: 5 times a week, 5 weeks should be given.

Patient able to sit more than 10 seconds and time was measured.

VI. CONCLUSION

This study was done on 15 stroke patients with neglect and 15 stroke patients without neglect who is scoring 1 in unsupported sitting of berg balance scale were selected to apply TENS. In this study group A showed better reduction in postural instability when compared to group B. Thus, the study concludes that there was statistically significant improvement in stroke patient with neglect after applying TENS.

VII. LIMITATIONS

- Sample size was small
- Long term effect was not studied.
- Study was limited to reduce sitting instability.

VIII. RECOMMENDATIONS

- A similar study with large sample size can be done.
- A similar study for traumatic brain injury can be done.
- TENS can be used to improve gait.
- A similar study can be done with visuospatial training.

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