Cipass: Trial of a daily program of cerebral stimulation by TMS using a PAS paradigm in the recovery phase of stroke patients

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Keywords: CIPASS; Stroke; TMS; PAS paradigm; Cerebral plasticity

Introduction and goals.— The Paired Associative Stimulation (PAS) is a non-invasive brain stimulation method that modulates cortical plasticity. The intervention consists of a combination of two stimulations: an electrical peripheral one and a magnetic cortical one with a frequency at 0.1 Hz over 30 min. The CIPASS is a new neuromodulation protocol where a PAS session is performed on a daily basis during 5 days to hemiparetic patients with a stroke (less than 6 months). This is a randomized, double-blind and placebo-controlled trial. Our goal is to demonstrate a lasting increase of motor cortical plasticity for wrist muscles. Our judgment criteria are electrophysiological and motors parameters. Our methods are described in detail in the Methods section.

Objectives.— We aim to demonstrate a lasting increase of motor cortical plasticity for wrist muscles. Our judgment criteria are electrophysiological and motors parameters. Our methods are described in detail in the Methods section.

Methods.— Eight patients (five men and three women, mean age: 53 ± 6.2 years) have been included (Fugl-Meyer motor Scale = FMS, upper limb section: 23/66 ± 7); one session of PAS stimulation were applied to the Extensor Carpi Radialis (ECR) muscle on a daily basis during 5 days. The motor-evoked potential (MEP) surface of ECR muscle and the Fulg-Meyer motor Scale of wrist muscles were measured on a daily basis during 5 days to hemiparetic patients with a stroke (less than 6 months). This is a randomized, double-blind and placebo-controlled trial. Our goal is to demonstrate a lasting increase of motor cortical plasticity for wrist muscles. Our judgment criteria are electrophysiological and motors parameters. Our methods are described in detail in the Methods section.

Results.— An increase of MEP surfaces has been demonstrated, 3 days after the end of the last session, for patients of stimulated group (+300% ± 347%); and a less important increase for those of placebo group (+25% ± 28%). This translates a more important increase of motor cortical excitability for the stimulated group. It has also been reported motor performance improvements (FMS) for the stimulated group (+5.25 ± 28%); and a less important increase for those of placebo group (+25% ± 28%). This translates a more important increase of motor cortical excitability for the stimulated group. It has also been reported motor performance improvements (FMS) for the stimulated group (+5.25 ± 28%). This translates a more important increase of motor cortical excitability for the stimulated group. It has also been reported motor performance improvements (FMS) for the stimulated group (+5.25 ± 28%). This translates a more important increase of motor cortical excitability for the stimulated group. It has also been reported motor performance improvements (FMS) for the stimulated group (+5.25 ± 28%).

Conclusion.— The number of patients included is still low to allow us to draw conclusions. A daily program of PAS session seems to induce long-term changes in the excitability of corticospinal projection to wrist muscles in stroke patients up to 3 days following the end of the stimulation program; motor effects seems however less conclusive. These results have to be confirmed with a larger sample.

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The effect of video-guidance on passive and active movements as assessed by fMRI: Useful for upper limb stroke rehabilitation?

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Keywords: fMRI; Passive movements; Active movements; Video guidance; Stroke rehabilitation

Objectives.— The use of this manual has proven somewhat complicated for some patients, providing spastic patients with an exercise manual containing explanations, illustrations and a logbook on which the patient notes daily performances. The use of this manual has proven somewhat complicated for some patients, providing spastic patients with an exercise manual containing explanations, illustrations and a logbook on which the patient notes daily performances.

Methods.— The use of this manual has proven somewhat complicated for some patients, providing spastic patients with an exercise manual containing explanations, illustrations and a logbook on which the patient notes daily performances.

Results.— The use of this manual has proven somewhat complicated for some patients, providing spastic patients with an exercise manual containing explanations, illustrations and a logbook on which the patient notes daily performances.

Conclusion.— These promising results could suggest, as far as they will be further confirmed, that an early cortical neuromodulation with anodal tDCS in association with ePENS, could act in the early post-stroke phase as an efficient adjuvant to promote the natural cortical plasticity involved in the recovery processes.

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Simplified instructional cards for the implementation of guided self-rehabilitation contracts for inpatients with spastic paresis

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Keywords: Guided Self-Rehabilitation Contracts; Simplified cards; Individual sessions; Group workshops; Logbooks

Objective.— The neurorehabilitation team of Albert Chenevier Hospital in Créteil (94) has developed Guided Self-Rehabilitation Contracts (GSC) providing parietic patients with an exercise manual containing explanations, illustrations and a logbook on which the patient notes daily performances.

The use of this manual has proven somewhat complicated for some patients, providing spastic patients with an exercise manual containing explanations, illustrations and a logbook on which the patient notes daily performances.

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