Immediate effects of mirror therapy on spatial neglect

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Objective.– A few studies have suggested an effect of mirror therapy on hemiparesis after stroke (CVA) [1]. Recent work has also suggested a long-term effect on spatial neglect [2]. Our objective was to evaluate the immediate effect of a single session of mirror therapy on manifestations of spatial neglect.

Patients and methods.– We included eight subjects (30-75 years) with spatial neglect (according to Negligence Evaluation Battery) secondary to a unilateral stroke of the right hemisphere. Mirror therapy sessions lasted for 30 minutes and used the classic mirror therapy device [1] with a cache on the right upper limb. Control therapy used the same device and reproduced the visual anchor to right singularly. The effect of the two procedures was compared – a randomized cross-over protocol with a wash out period of one week.

Results.– Mirror therapy had a significant impact on performance in any test. However, no significant difference was observed in the drawing from memory of virtual supermarket plan is observed, suggesting an enhancement of the visuo-graphic, topographic and semantic aspects of spatial representation after PA.

Discussion.– For the left target the patient needed more time than the control group to respond, regardless of the modality or the congruency. Nevertheless, the conflict cost was similar to the control group. For the right target, the patient presented an extensive conflict effect for auditory target and a paradoxical (reversed) conflict effect for visual target. fMRI data showed that, for the auditory target, incongruent compared to congruent trials elicited activations over a bilateral fronto-parietal network in the control group. A comparable result was obtained for the patient except for the right inferior parietal activation (BA40). Instead, we observed a right superior parietal activation (BA7). No activation was found for incongruent trials compared to congruent for the visual target whatever the group.

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Study of pop-out effect in neglect patients

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Background.– Hemineglect is a syndrome characterized by disturbances of space exploration to the left hemifield with behavior of deviation to the right. Due to the diversity of its manifestations and brain lesion responsible for symptoms, pathophysiology, diagnostic and therapeutic still remain problematic. We have implemented on a computer interface the bells cancellation test (Gauthier 1989). Objective.– Establish the effects of striking targets (global or predominantly on the left) with color and/or movement on visual exploration according to each hemifield. Three groups of patients with brain damage are evaluated: 24 patients with hemineglicence, 12 patients recovered completely from it and 12 patients who never presented hemineglect.

Results.– Computerization of the test could be considered valid as there was a significant difference between the three groups for the number of targets hits, the first column of the target and the execution speed (P < 0.001 for all three). Our study has highlighted that the execution speed of hemineglect patients is improved by the introduction of a global striking effects by color (1.8 seconds...