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The Mentamove® Rehabilitation After Left Carotid Artery Occlusion: fMRI Findings after Treatment (Case Report)

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Background: The Brain Efficiency Training (Mentamove®) is a neurorehabilitation method used for rehabilitation after various brain lesions. If the motoric activities are mentally practised by the patient, the real movement gives a reorganisation to the brain.

Methods: Our case (a 53 year old, left handed male) had left carotid artery occlusion. He still displayed right side spastic hemiparesia 15 months after the stroke, with motor dysphasia and cognitive recall problems. The Mentamove® training program was applied only on the right arm 1 time/daily. The results were measured with the Medical Research Council Scale (MRC) of 0-5 and video documentation. The resulting brain activity was investigated with fMRI after 3 months, and 8 months after the use of the Mentamove® treatment.

Results: Using the MRC scale, the motor power increased on the right shoulder abduction from 3 to 5, and the elbow extension improved from 2 to 5. The wrist extension improved from 0 to 4.

The fMRI showed increased BOLD (Blood Oxygen Level Dependence) activity after 2 months of the Mentamove® therapy, with right hand movements on the right premotor cortex. After 8 months right hand movements showed newly organised areas on the right cortex.

Conclusion: These results show increased activity on the right hemisphere during training with the Mentamove® Method, and newly reorganised areas after the therapy. The fMRI supports the reorganisation theory of the brain after ideomotoric training.