研究業績　英文表記

和文	
表題	運動誘発電位に基づくニューロフィードバックを用いたメンタルプラクティス効果に関する研究
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英文	
Title	A Study on the Effect of Mental Practice Using Motor Evoked Potential-Based Neurofeedback
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Abstract	This study aimed to investigate whether the effect of mental practice (motor imagery training) can be enhanced by providing neurofeedback based on transcranial magnetic stimulation (TMS)-induced motor evoked potentials (MEP). Twenty-four healthy, right-handed subjects were enrolled in this study. The subjects were randomly allocated into two groups: a group that was given correct TMS feedback (Real-FB group) and a group that was given randomized false TMS feedback (Sham-FB group). The subjects imagined pushing the switch with just timing, when the target circle overlapped a cross at the center of the computer monitor. In the Real-FB group, feedback was provided to the subjects based on the MEP amplitude measured in the trial immediately preceding motor imagery. In contrast, the subjects of the Sham-FB group were provided with a feedback value that was independent of the MEP amplitude. TMS was applied when the target, moving from right to left, overlapped the cross at the center of the screen, and the MEP amplitude was measured. The MEP was recorded in the right first dorsal interosseous muscle. We evaluated the pre-mental practice and post-mental practice motor performance in both groups. As a result, a significant difference was observed in the percentage change of error values between the Real-FB group and the Sham-FB group. Furthermore, the MEP was significantly different between the groups in the 4th and 5th sets. Therefore, it was suggested that TMS-induced MEP-based neurofeedback might enhance the effect of mental practice.
keyword	mental practice, motor evoked potential, neurofeedback, transcranial magnetic stimulation, motor imagery training

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