The Motor Cortex Mapping Using Transcranial Magnetic Stimulation by Large and Angled Figure of Eight Coil in Normal Subjects

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Abstracts

Objective : Brain mapping is mandatory for accurate evaluation in patients with brain injury and for the study about brain plasticity. Since the introduction of transcranial magnetic stimulation(TMS), the shape and size of stimulation coil have developed for more adequate stimulation. In the current study, we attempted to perform brain mapping in normal subjects using large and angled figure of 8 stimulator.

Subject and Methods : Twenty-four subjects without history of neurological disease were recruited. The motor cortex mapping for Abductor pollicis brevis(APB) muscle was done with large and angled figure of 8 stimulator.

Result : The optimum stimulation point were found at coordination (5.83, 0.67), (-

5.50, 0.54). Excitation threshold was 75.83% of the maximum stimulus for right cerebral motor cortex and 76.25% for the left one. Average latency was 20.36 msec for the right and 20.35msec for the left, and average amplitude was 367μV for the right and 451μV for the left, respectively. It was not found ipsilateral motor evoked potential(MEP) in all subjects.

Conclusion : We concluded that large and angled figure of eight coil is useful for TMS in motor cortex mapping in normal subjects.

Keyword : large and angled figure of eight stimulator, motor cortex mapping