

Motor cortex stimulation: a new perspective in the treatment of movement disorders and in pain management

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Abstract

In experimental cat models of spinothalamic tractotomy a thalamic hyperactivity of low threshold mechanoreceptor neurons was observed 3 wks after tractotomy. Motor cortex stimulation profoundly inhibited this abnormal firing, while sensory cortical stimulation was ineffective.

On these basis Tsubokawa more than 10 years ago proposed motor cortex stimulation to relief deafferentation pain in humans. More recently this neuromodulation procedure has been utilized for the control of movement disorders particularly in advanced parkinsonism.

The results reported in the literature are controversial. Personal experience (10 pain patients and 6 PD patients) is too preliminary to allow any conclusion on both applications, but we believe that uniformity in surgical procedure and in data collection is mandatory in order to collect meaningful informations on this matter.

Aim of this presentation is to discuss our protocols of MCS.