



POSTER

# Postactivation depression changes associated with improvement of motor ability in subacute stroke: a case series of three patients

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## Abstract

Postactivation depression is a presynaptic mechanism regulating the excitability of the stretch reflex. Postactivation depression of soleus H-reflex has been found to be lower in spastic patients, and a positive correlation has been reported between the diminished postactivation depression and the severity of spasticity following stroke. However, the effects of diminished postactivation depression on motor ability in stroke patients have been unclear. The purpose of this study was to measure postactivation depression post-stroke and to examine the relationship between postactivation depression and motor ability. The study included three subacute stroke patients with lower limb hemiparesis. Postactivation depression, quiet standing balance, walking

velocity, Fugl-Meyer, Ashworth, were assessed three times per 4 weeks. All patients have been participated in conventional physical therapy in the rehabilitation hospital while investigating. Postactivation depression was evaluated by frequency-related changes of soleus H-reflex. It was quantified as the ratio: mean amplitude of the H-reflexes obtained at 1 Hz/mean amplitude of the H-reflexes obtained at 0.1 Hz. For all patients, postactivation depression showed increasing associated with improvement of quiet standing balance, walking velocity, and Fugl-Meyer. On the other hand, Ashworth didn't show changing while investigating. Results suggests that the improvement of motor ability after stroke is associated with recovery of postactivation depression.

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