FMRI DURING MOTIVATIVE EXERCISE COMPARED WITH PASSIVE ROM IN STROKE PATIENTS

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(Abstract)
We try to certify that “Motivative exercise” is more effective rehabilitation tool than passive ROM exercise to ankle joints by physical therapist in chronic stroke patients. To prove these facts we use functional MRI and get good results in “Motivative exercise”.
In “Motivative exercise” patients do exercise by very simple tools designed by K. Takizawa RPT. In this study, we use Pata, one of Motivative tools.

(Subject)
13 stroke patients attending day service program attached our hospital by care insurance, 4 female, 9 male. Age 54-83 y.o (ave67y.o) All are ambulatory, some of them community walkers.

(Method)
1) Passive ROM exercise in paralytic ankle joint by physical therapists.
2) Motivative exercise by Pata in both ankles with non-paralytic side simultaneously.
3) Protocol ; 1 cycle consists 45 seconds rest, 30s task, 30s rest.
   Data of 3 cycle trials are analyzed automatically.
4) Devises have been changed to metalless for taking MRI by Prof. Tanaka and colleague in Keio University.

(Summary)
To analyze brain activity by fMRI, activated areas are wider in Pata bilateral exercise than conventional passive ROM exercise to paralytic limb only.
These results show this simple exercise tool, Pata, is useful and helpful to continue training hemiparetic limb, and these exercise support patients do by themselves not only ADL but maintain their impairments independently.
We are sure to expect that Motivative exercise will save aging crisis.