

4th World Congress on Cancer Science & Therapy

October 20-22, 2014 DoubleTree by Hilton Hotel Chicago-North Shore Conference Center, USA

Comparison of the effects of attention deficit on rehabilitation functional outcomes in brain tumor patients and subacute stroke patients

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Objective: To confirm the functional improvement in brain tumor patients after 4-week conventional rehabilitation therapy and to compare the cognitive impairment of brain tumor with subacute stroke patients using computerized neuropsychological testing and determine the effects on functional outcomes of daily activity.

Methods: From April 2008 to December 2012, 55 patients (29 brain tumor patients, 26 subacute stroke patients) were enrolled. All patients were assessed with a computerized neuropsychological test at baseline. Motricity index, Korean-mini mental status exam, and Korean-modified Barthel index scores were assessed at the beginning and end of 4-week rehabilitation. Conventional rehabilitation therapy had been applied to both groups for 4 weeks.

Results: Functional outcomes of all patients in both groups significantly improved after 4-week rehabilitation therapy. In brain tumor patients, the initial Motricity index, cognitive dysfunction, and visual continuous performance test correction numbers were strong predictors of initial daily activity function ($R^2=0.778$, $P<0.01$). The final Motricity index and word-black test were strong predictors of final daily activity function ($R^2=0.630$, $P<0.01$). In patients with subacute stroke, the initial Motricity index was an independent predictor of initial daily activity function ($R^2=0.245$, $P=0.007$). The initial daily activity function and color of color word test were strong predictors of final daily activity function ($R^2=0.745$, $P<0.01$).

Conclusions: Conventional rehabilitation therapy induced functional improvement in brain tumor patients. And objective evaluation of cognitive function and comprehensive rehabilitation including focused cognitive training should be performed in brain tumor patients for improving their daily activity function and quality of life.

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