뇌신경재활

게시일시 및 장소 : 10 월 18 일(금) 13:15-18:00 Room G(3F)

질의응답 일시 및 장소 : 10 월 18 일(금) 15:45-16:30 Room G(3F)

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Which Cognitive Assessment Scale is Better for Predicting Functional Outcome in stroke patients?

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Objective

The purpose of this study is to compare Montreal Cognitive Assessment (MoCA) and Mini-Mental State Examination (MMSE) in categorizing cognitive impairment in subacute stroke patients and to figure out the relationship of cognitive assessment scales to functional outcome.

Materials and Methods

We retrospectively analyzed patients with a primary diagnosis of ischemic stroke admitted to a rehabilitation unit at a university-based tertiary medical center between March 2018 and February 2019. Inclusion criteria were as follows: (1) age of 18 years or older, (2) medically stable, (3) K-FAST (Korean version of Frenchay Aphasia Screening Test) score : ≥25 points in <65 years old and ≥20 points in ≥65 years old. The MMSE were administered by physiatrists, and the MoCA, by occupational therapists at admission. Functional outcome was measured by using FIM (Functional Independence Measure). Paired t-test was used to compare the difference between mean MMSE and MoCA total scores. Associations between cognitive assessment scales and discharge FIM scores were explored using multiple regression analysis.

Results

The total number of patients admitted to rehabilitation unit was 241; Following the inclusion and exclusion criteria of the study, 53 patients were analyzed (Fig. 1). The sample consisted of 53 persons with a mean age of 67.57±12.33 years with a median time from stroke of 7.0 days. Demographic characteristics are listed in table 1. Mean of the MMSE and MoCA were 24.79±2.8 and 20.96±4.4, respectively ($P<0.05$). In univariate linear regression analysis, there were significant correlation cognitive assessment scales and FIM scores. Of the subscores, there was the strongest relationship between the visuoexecutive subscore and discharge FIM score, and it subsequently was included in the multivariate linear regression models outlined next. Multivariate linear regression models that included age, admission FIM score, and a cognitive measure (ie, MoCA total score, MMSE total score, MoCA visuoexecutive subscore) significantly explained approximately 62.8% to 66.8% of

the variance in discharge FIM scores (table 2). In this regression model, the visuoexecutive subscore of the MoCA was the strongest predictor of functional status (P<0.05) (Table 2).

Conclusion

The MoCA may be an important cognitive screening tool for patients with stroke and mild cognitive dysfunction on an acute rehabilitation unit. Regarding the FIM score at discharge, visuoexecutive domain appears to have a greater relationship with acute inpatient rehabilitation functional improvement and outcome.

Table 1. Demographic Characteristics of Sample

Characteristics	Total
Participants, n	53
Sex	
Men	34 (64)
Women	19 (36)
Age	68±12
Side of lesion	
Left hemisphere	18(34)
Right hemisphere	30(57)
Bilateral	5(9)
LOS	30(4-59)
Days post-CVA	7.0(2-17)
NIHSS score	2(0-7)
FIM admission score	80±17

NOTE. Values expressed as n (%), mean ± SD, or median(range).
Abbreviation : LOS, length of stay., CVA, cerebrovascular accident., NIHSS, national institute of health scale., FIM, functional independent measure.

Table 2. Multivariate Linear Regression Analysis for the Effect of Admission Cognitive Status (MoCA, MMSE, or MoCA visuexecutive subtest) on Functional Discharge Status (FIM discharge)

	Model 1 (with MoCA total)			Model 2 (with MMSE total)			Model 3 (with visuoexecutive subtest)		
Variable	β	SE	P	β	SE	P	β	SE	P
Constant	55.48	15.81		40.26	19.48		50.62	14.82	
Age	-0.31	0.14	0.04*	-0.28	0.14	0.05*	-0.23	0.14	0.10
FIM Admission	0.64	0.10	0.00*	0.59	0.10	0.00*	0.55	0.10	0.00*
MoCA	0.19	0.35	0.59						
MMSE				0.77	0.60	0.21			
Visuoexecutive subset							3.28	1.39	0.02*

NOTE. N=53. Empty cells indicate variable was not included in the model.
*Significant at the .05 level.

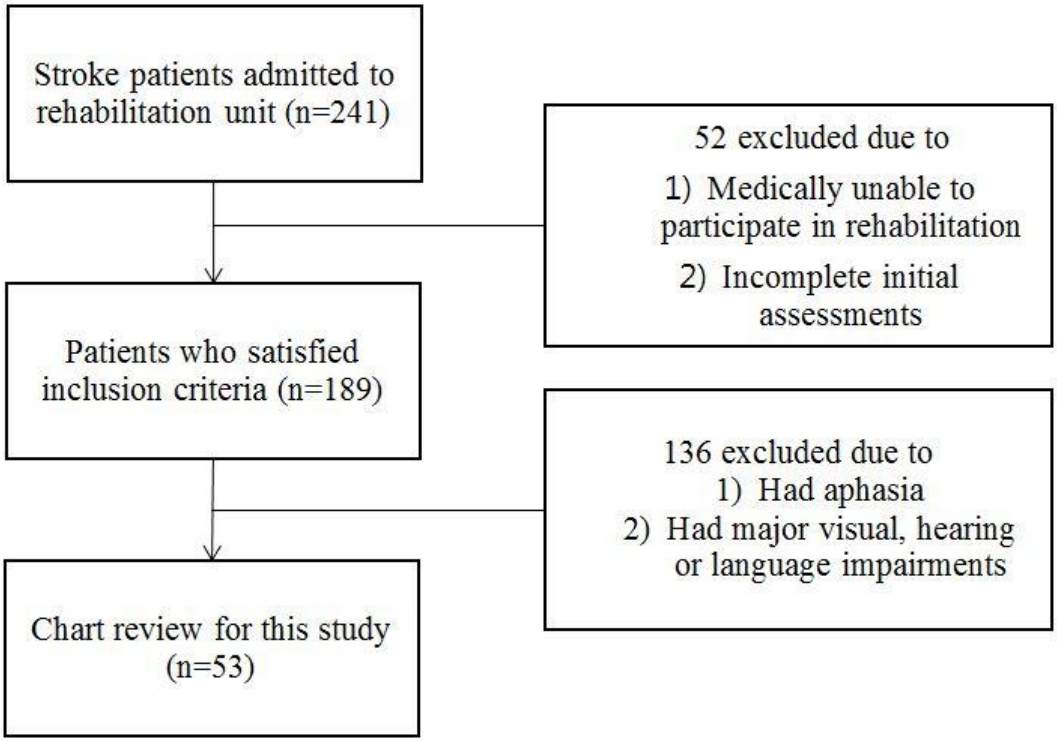

Figure 1. Flow chart for enrolling subjects