

Correlation between cognitive impairment and early functional rehabilitation outcomes after stroke in elderly patients.

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Introduction: Stroke is among the leading causes of disability and mortality in the elderly. It is a leading cause of hospital admission and prolonged length of stay for patients 65 years and older. Evidence from clinical trials supports the premise that early initiation of rehabilitation influences recovery from stroke. Criteria for a patient's admission to a comprehensive rehabilitation program may include the following: Stable neurologic status, significant persisting neurologic deficit, identified disability affecting at least 2 of 5 functions, including mobility, self-care activities, communication, bowel or bladder control, and swallowing, sufficient cognitive function to learn, sufficient communicative ability to engage with therapists, physical ability to tolerate the active program, achievable therapeutic goals. Cognitive impairment, as manifested by low scores in mental status questionnaires, has been correlated with limited functional gains and poor rehabilitation outcome in elderly patients.

Patients and Methods: Our study was prospective and conducted at Neurological department of General Hospital "Prim.dr A. Nakas" Sarajevo during 01.01.2015.- 31.12.2015. We included 50 patients older then 70 years hospitalized because of first ishaemic stroke with significant motor impairment which is defined with NIHSS score at admission and at discharge and all of them were included in early rehabilitation program for 2 weeks at Neurological Department. Cognitive status was assessed with the Mini-Mental State Examination (MMSE).

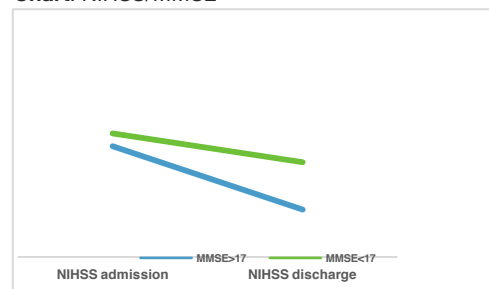
Aim: To assess whether cognitive outcome relates to overall functional outcome among elderly stroke patients.

Results: The majority, 69.2%, exhibited cognitive deficits on admission. There were 9.8% patients with an MMSE score equal or lower then 10 points. No significant change in cognitive scores was observed during rehabilitation. When functional improvement was measured according to the level of cognitive impairment, NIHSS scores on admission and discharge of the cognitively impaired patients were lower. Better rehabilitation outcomes were observed in patients with higher admission cognitive status, adjusting for the effect of age, sex and severity of stroke (odds ratio 2.57; 95% confidence interval, 1.2–2.5; p=0,01).

Table: Demographic and Clinical Characteristics of the Study Patients (N=50)

Characteristic	MMSE>17 (n=14)	MMSE <17 (n=36)
Age (y)	70,2	75,3
Male	79.3%	67.6%
Female	20.7%	32.4%
Education (≥12y)	63.8%	73.6%
Stroke severity (NIHSS)		
Mild	77.1%	59.8%
Moderate	16.8%	29.3%
Severe	6.2%	11.0%

Chart: NIHSS/MMSE



Conclusion: Because many rehabilitation techniques require normal cognition and patient cooperation, cognitive status must be considered when determining the rehabilitation aims, establishing treatment strategies and predicting outcome. Better functional outcomes being achieved in cognitively intact elderly stroke patients.

Key words: stroke, elderly, cognition, rehabilitation.