

CONTINUOUS REHABILITATION OF ELDERLY STROKE PATIENTS IN THE PREVENTION OF MENTAL AND MEMORY DISABILITIES

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SUMMARY. – Increasing attention has been paid to the problem of dementia in neurology, in its scientific, clinical and practical aspects. New diagnostic technology, and perspectives of prevention and treatment have transferred medical interest from the phenomenological, predominantly psychiatric view to the etiologic, organic aspect which is by nature closer to neurology. The aim of the study was to evaluate the contribution of continuous physical and mental rehabilitation of elderly patients with ischemic stroke resulting in motor deficiency, in the prevention of dementia syndrome. The patients were divided into two groups: group A consisting of patients treated during the period from October 1, 1991 till April 30, 1992, who could not receive continuous physical and mental rehabilitation due to the war; and group B including patients treated at the beginning of 1991, who underwent continuous physical and mental rehabilitation. The patients from both groups belonged to urban or suburban population, and were matched according to age, sex, education, and diagnosis. Neuropsychological studies for some specific cognitive abilities indicated significantly better preservation of visuomotor abilities, visual memory and short-term memory in the group included in the rehabilitation process. Likewise, these patients showed considerably better emotional stability, while the patients who did not undergo rehabilitation showed symptoms of anxiety and depressive disorder. The second part of the study referred to evaluation of the success of rehabilitation in the treatment of motor deficiency. The percentage of mobile patients in group B (53.8%) was considerably higher than in group A (21.4%).

Key words: *Cerebral infarction, therapy; Dementia, rehabilitation; Aged*

Introduction

Practical significance of brain disorders in the elderly is constantly growing, since the percentage of elderly people in the general population is on an increase. This, in turn, leads to an increase in the number of patients suffering from vascular or degenerative dementia. These processes of brain disintegration should be differentiated from the normal brain involution due to advanced age. All elderly people, with some individual differences, show some weakening of bodily and emotional abilities. The ability to assess perception of the environment and general in-

tellectual ability are weakened, emotional oscillations are evened out, while the sphere of interest is narrowed.

Our findings that patients who had suffered a stroke were in a better condition than they appeared to be, their dementia being of a lacunar type, led us to use continuous physical and cognitive rehabilitation in addition to medication in stroke patients. The rehabilitation consisted of daily physical activities and exercise, speech and cognitive exercises, and participation in social life and entertainment at home.

Aim of the Study

The aim of the study was to evaluate the effect of continuous physical and cognitive rehabilitation of elderly

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patients with stroke resulting in motor deficiency, on the prevention of dementia syndrome and motor deficiency.

Patients and Methods

Two groups of patients were compared. Group A consisted of stroke patients who had no continuous physical or cognitive rehabilitation due to the war, while group B included patients who did receive such rehabilitation. Mean age of group A and B patients was 64.7 and 65.4 years, respectively. Patients from both groups belonged to urban or suburban population, and were matched according to age, sex, education and diagnosis.

In the neuropsychological treatment, Wechsler's intelligence scale (Wb II) was used.

The study was limited to 10 subtests (5 from verbal and 5 from nonverbal series) which are generally used in neuropsychological research for rehabilitation, or for evaluation of working ability or for vocational guidance. The Cornell Index 4 neurosis questionnaire was used in all patients. For the assessment of recovery from motor deficiency, a rather inexact method of gradation was chosen, although some more exact methods of fine gradation are presently available.

The patients were divided into three groups according to the degree of remaining motor deficiency: group I – immobile, bed-ridden; group II – mobile with assistance; and group III – mobile independently, with some degree of motor deficiency.

Results

Analysis of Fig. 1 reveals that none of group A patients showed above-average or very high intellectual ability, while one patient from group B showed above-average results.

Average results were achieved by 35.73% (n = 10) of group A patients and 69.22% (n = 18) of group B patients. Below-average results were achieved by 39.28% (n = 11) of group A patients and 23.08% (n = 6) of group B patients, which was polar opposite to the results recorded for average category. In the borderline category, there were 21.42% (n = 6) of group A patients, as compared with only 3.85% (n = 1) of group B patients.

Slight and marked impairment of visuomotor coordination was detected in 14 (50.00%) and 10 (35.71%) group A patients, respectively. In group B, eight (30.77%) pa-

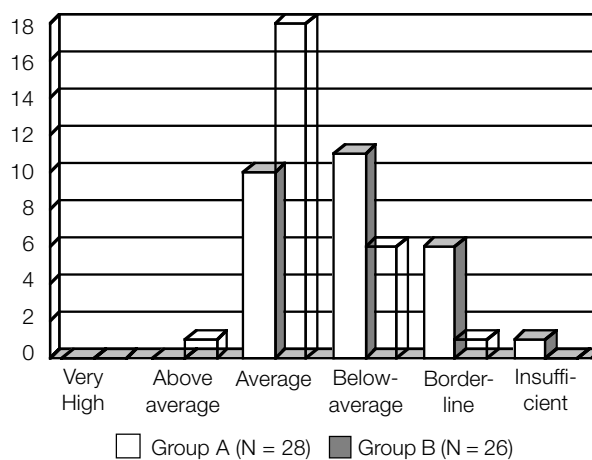


Fig. 1. General intellectual abilities, obtained by use of Wechsler's scale (Wb II)

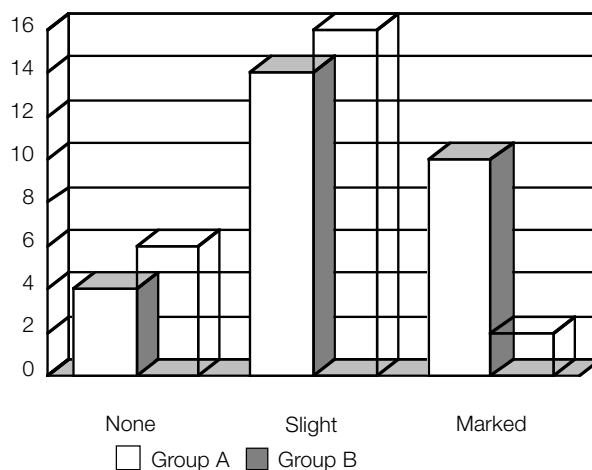


Fig. 2. Impairment of visuomotor coordination

tients were free from any disturbance of visuomotor coordination (Fig. 2). Slight and marked impairment of perceptual organization was recorded in 11 (39.29%) and nine (32.14%) group A patients, respectively, while 11 (42.31%) group B patients were free from such impairments (Fig. 3). Slight and marked short-term memory disturbances were detected in 6 (21.43%) and 14 (50.00%) group A patients, respectively, while 14 (53.85%) group B patients showed no such impairments (Fig. 4).

All the three specific abilities considered in the study were better preserved in group B patients who had undergone continuous physical and cognitive rehabilitation. In addition to the assessment of cognitive abilities, both groups were subjected to Cornell Index 4 neurosis questionnaire. The results indicated a higher rate of neurosis symptoms in group A, predominated by depression and

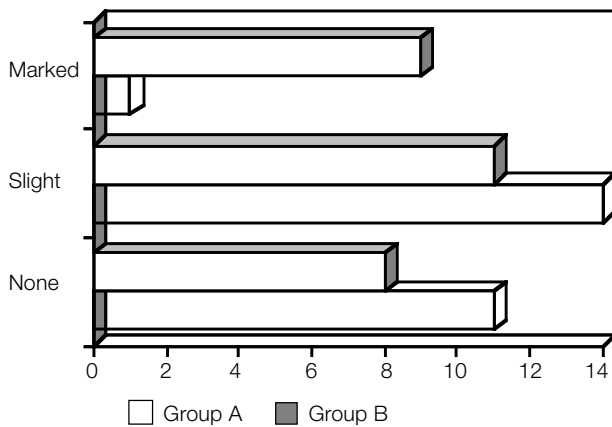


Fig. 3. Impairment of perceptual organization

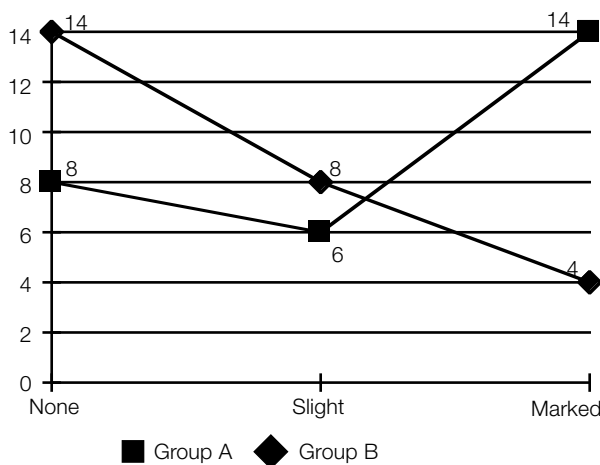


Fig. 4. Impairment of short-term memory

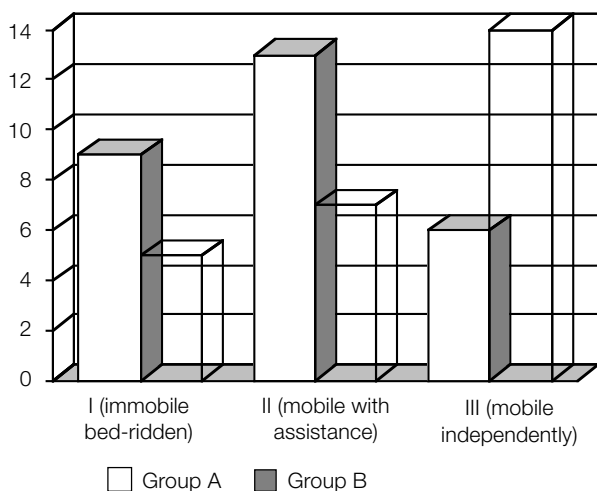


Fig. 5. Recovery of motor deficiency

anxiety present in 19 (67.86%) patients, while 15 (57.69%) group B patients showed no neurotic behavior.

It is evident that the degree of patient recovery in group A was considerably lower than in group B. The percentage of independently mobile patients was 21.43% (n = 6) in group A, and 53.85% (n = 14) in group B (Fig. 5).

Discussion and Conclusion

Old age or signs of angiopathy yet do not justify the decline of cognitive abilities to be associated with brain damage due to hypoxia. There are two mechanisms by which vascular processes or lesions lead to dementia: sub-cortical atherosclerotic encephalopathy, and typical micro-angiopathy caused by longstanding hypertension (more common). The second cause of dementia are extensive infarcts, which also cause cognitive disorders depending on their localization.

Wechsler's Intelligence Scale (Wb II) was used in the neuropsychological treatment, along with subtests measuring some specific abilities that are considered to be particularly vulnerable and are usually affected by brain pathology of cerebrovascular type.

The short period of recovery from stroke, a small number of study patients, and a limited number of tests used in the study of memory disorders have undoubtedly limited the possibility of full explanation of the results obtained. Yet, the neuropsychological testing aimed at explanation of certain cognitive abilities indicated by far better preservation of visuomotor abilities, visual memory and short-term memory in the rehabilitation group patients. This group also demonstrated emotional stability and included some independently mobile patients.

These results strongly support our further work on rehabilitation processes, indicating that continuous cognitive and physical rehabilitation is a significant factor in the prevention of dementia, at the same time increasing the number of independently mobile patients.

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Sažetak

KONTINUIRANA REHABILITACIJA U STARIJIM BOLESNIKIMA S MOŽDANIM UDAROM ZA PREVENCIJU PSIHIČKE NEMOĆI I POREMEĆAJA PAMĆENJA

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Sve se veća pozornost u neurologiji posvećuje problemu demencije, i to u znanstvenom, kliničkom i praktičnom aspektu. Nova dijagnostička tehnologija, te izgledi za uspješnu prevenciju i liječenje prenijeli su zanimanje medicine s fenomenološkog, poglavito psihijatrijskog stajališta na etiološki, organski aspekt koji je po svojoj naravi bliži neurologiji. Cilj ovoga ispitivanja bio je procijeniti doprinos kontinuirane fizikalne i psihičke rehabilitacije starijih bolesnika s ishemijskim moždanim infarktom s posljedičnom motornom deficijencijom, u prevenciji sindroma demencije. Bolesnici su podijeljeni u dvije skupine: skupinu A, koji su bolesnici liječeni u razdoblju od 1. listopada 1991. do 30. travnja 1992. godine i zbog ratnih okolnosti nisu prošli program kontinuirane fizikalne i psihičke rehabilitacije, te skupinu B, koji su bolesnici liječeni početkom 1991. godine i koji su prošli program rehabilitacije. Bolesnici obje skupine pripadali su gradskoj i prigradskoj populaciji i bili su podjednaki po dobi, spolu, stupnju obrazovanja i dijagnozi. Neuropsihološko ispitivanje s naglaskom na specifičnim kognitivnim sposobnostima pokazalo je značajno bolje očuvane vizualnomotorne sposobnosti, vizualno pamćenje i kratkotrajno pamćenje u skupini bolesnika koji su bili uključeni u rehabilitacijski program. Isto tako, ovi su bolesnici pokazali znatno bolju emocionalnu stabilnost, dok su bolesnici koji nisu prošli program rehabilitacije pokazivali simptome anksioznosti i depresivnog poremećaja. U drugom dijelu ispitivanja provedena je procjena uspjeha rehabilitacije u liječenju motorne deficijencije. Postotak pokretnih bolesnika bio je znatno viši u bolesnika iz skupine B (53,8%) nego u onih iz skupine A (21,4%).

Ključne riječi: *Moždani infarkt, terapija; Demencija, rehabilitacija; Starije osobe*