9TH MULTIDISCIPLINARY INTERNATIONAL
Conference of Biological Psychiatry

«Stress and Behavior»

Proceedings of the 9th International Multidisciplinary Conference «Stress and behavior»
Saint-Petersburg, Russia, 16–19 May 2005
Editor: Allan V. Kalueff, PhD

CONFERENCE ABSTRACTS

6. GENERAL QUESTIONS: PSYCHIATRY OF STRESS

NEGATIVE LIFE EVENTS AND SYNDROME OF MILD COGNITIVE IMPAIRMENT IN OLD AGE

Y.B. Fedorova, I.F. Roschina
Mental Health Research Centre of Russian Academy of Medical Science, Moscow, Russia

The problem of preclinical diagnostics of Alzheimer's Disease (AD) is getting the growing importance due to a dramatic growth of anti-AD therapy. Neurogenerative dementia may remain unrecognized for a long time (months or years) since its initial symptoms are usually regarded as normal ageing. Therefore, identification of symptoms of progressing cognitive deficiency and their differentiation from mild cognitive impairment (MCI) of nonprogressive character is very important.

Methods. The study group consisted of elderly persons from the relatives of AD patients observed in the Department of Alzheimer's Disease, or older persons who independently contacted our Centre with complaints of decrease of memory, and fitted the criteria of MCI syndrome. The group included 20 patients: 13 women and 7 men aged 50–80 (mean 69.3), receiving clinical, psychopathological, psychometric, neuropsychological, neurovisual (MRI), molecular-genetic (ApoE4 genotyping) analysis. To estimate cognitive functions the following psychometric tests were used: Mattis Dementia Rating Scale, Mini-Mental Status Examination, Boston Naming Test, Frontal Assessment Battery and others. Besides patients received neuropsychological investigation using Luria's tests with a quantitative estimation of Higher Mental Functions (HMF). Possible connection of MCI development with negative life events was also studied.

Results. Overall, 1–5 negative life events or psychotraumatic situations were observed in 13 of 20 patients, including 8 ApoE4(–) and 5 ApoE4(+). Neuropsychological investigation suggests that disorders in deep brain structures were most prominent in all patients (1 block of brain by Luria), as assessed by modal-nonspecific decline of memory. At the same time, frontal disorders (3 block) as well as TPO zone disorders were revealed; also showing decreased control and programming of activity and difficulty of the spatial analysis and the synthesis. Severity of cognitive deficiency estimated on psychometric tests did not sufficiently differ between ApoE4(+) and ApoE4(–) genotypes. Comparison of frequency of negative life events depending on ApoE4 genotype showed that ApoE4(–) patients accumulated negative life events, whereas this was not observed in ApoE4(+) patients. Almost half of patients with ApoE4(+) showed less favorable syndrome of HMF decrease, including 1–3 blocks of the brain.

Conclusions: certain qualitative distinctions in the structure of cognitive decrease in elderly persons observed here did not correspond to the quantitative HMF psychometric data. In Apoe4(–) genotype, the more favorable type of decreased HMF was revealed, whereas in the ApoE4(+) group, less favorable type neuropsychological syndrome was observed almost in half of cases. ApoE4(–) patients demonstrated accumulation of psychotraumatic events compared to ApoE4(+) patients. Overall, MCI syndrome representing preclinical stage of AD, in elderly persons having genetic ApoE4(+) risk factor, is rather endogenous, while in the ApoE4(–) group it needs an additional negative environmental psychotraumatic influence.