Results: Neuropsychological investigation suggest that disorders due to deep brain structures dysfunctions were most prominent in all patients (1st block of brain functions by A.R. Luria), namely: modal-nonspecific decline of memory. At the same time frontal regions disorders (3d block) as well as temporal-parietal-occipital (TPO) areas disorders (2nd block) were revealed; decrease of the control and programming of activity and difficulty of the spatial analysis and the synthesis, shown in the most complex tests. Severity of cognitive deficiency estimated on psychometric tests did not sufficiently differ between ApoE4(+) and ApoE4(−) patients. Analysis of frequency of negative life events depending on ApoE4 genotype showed that patient with ApoE4(−) genotype accumulated negative life events, in comparison to ApoE4(+) patients. Favourable variant of neuropsychological syndrome was seen practically in all patients with ApoE4(−) genotyping and less non-favourable HMF syndrome was also observed almost in a half of ApoE4(+) patients.

Conclusions: MCI group seems to be rather heterogenous by the structures of neuropsychological syndrome though no difference in psychometric tests was found out. In persons with ApoE4(−) genotype more favourable type of neuropsychological syndrome was revealed (with deficiency practically only in the 1st functional block of the brain) whereas in persons with ApoE(+) the genotype non-favourable type of neuropsychological syndrome was also observed (nearly in a half of cases), involving not only 1st, but also 2nd and 3d blocks of the brain. ApoE4(−) patients demonstrate accumulation of negative psychotraumatic life events in comparison with ApoE4(+) patients. The data obtained suggest that in ApoE4(+) patients MCI syndrome could be developed in old age by endogenous mechanisms predominantly, whereas formation of MCI syndrome in elderly with ApoE4(−) genotype demands additional negative environmental influence, particularly accumulation of psychological stress factors.

References

Botulinum toxin type A in the treatment of severe treatment-refractory migraine

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Purpose: Botulinum toxin type A (BontA) has shown to be effective in the prophylactic treatment of migraine. Its mechanism of action has been attributed both to its muscle-relaxing effects, and to reduction in peripheral sensitization mediated by the inhibition in the release of nociceptive substances. The purpose of the present study was to investigate if BontA could be effective in migraine patients total or partially refractory to different kinds of prophylactic treatment.

Methods: The sample included 14 patients (12 women and 2 men), aged 21–60 years (mean values: 41±13). Migraine duration ranged from 3–50 years (mean values: 21±14). Diagnostic categories included 2 cases of migraine with aura, 5 cases of migraine without aura, and 7 cases of chronic migraine. All subjects had previously received at least one type of prophylactic drug therapy, and a 12 weeks course of ropivacaine trigger points injections to decrease peripheral sensitization. Seven of them were still on drug treatment at the beginning of the study. Patients filled a migraine diary during a baseline 4 weeks period and subsequently, received subcutaneous BontA injections in trigger points eliciting migraine headache: 12.5 BontA I.U. were injected in each trigger point up to a maximum of 8 trigger points (i.e. 100 BontA I.U.). Patients evaluations were done at baseline and 8 weeks after injection, and included assessment of attacks' frequency, rescue medication intake, a Visual Analog Scale of subjects' perceived improvement and the Headache Impact Test (HIT-6).

Results: Migraine frequency was reduced from 16.57±8.11 to 13.00±9.11 attacks per 28 days. The frequency of attacks of moderate and severe intensity decreased significantly (P=0.049). Rescue medication intake (NSAID and/or triptans) decreased >50% in relation to the baseline period in 6 (43%) patients. According to the VAS scores 5 (35.7%) patients reported a degree of improvement >50%, and 7 (59%) an improvement ranging from 30–50%. HIT-6 scores decreased from 62.07 5.43 to 53.64 9.29 (P=0.0025). Adverse reactions to drug were reported by 5 (35.7%) of the patients; they included pruritus or pain at the injection sites and numbness in the eyelids or in the procerus area, and were mild and transient in every case.

Conclusion: Despite the small sample size and the open design, our data strongly suggest that BontA trigger points injection can be a valuable therapeutic alternative in severe treatment-refractory migraine.

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Alzheimer’s disease (AD) is a progressive neurodegenerative disorder of unknown etiology, characterized by irreversible cognitive and physical deterioration. The role of apo E4 isoforms in this disease has been investigated in the literature. Apo E4 allele was identified as a major risk factor in various ethnic groups studied (Caucasian, African-American, Hispanic and Japanese. There was no study on Turkish population with probable AD. We examined 62 Turkish, of which 32 had probable AD (mean age 68.8±8.95 years and 30 were controls (mean age 70.44±5.10 years). Standardised Mini Mental Test, arranged for educated or noneducated individuals, was applied to all subjects for the evaluation of mental state. For the exclusion of other causes of dementia, some necessary procedures and tests were performed in the light of National Institute of Neurological and Communicative Disorders and Stroke and the Alzheimer’s Disease and Related Disorders Association (NINCDS-ADRSA) diagnostic criteria. Apo E4 genotyping was determined by DNA analysis, and consequently Polymerase Chain Reaction method was performed. There was a significantly higher frequency of the apo E4 allele in the probable AD group compared with controls (31.2% vs12%, p < 0.05). When genotypes including E4 allele were taken into consideration in apo E4 genotyping, the rates were found as 48% in the patients and 24% in the controls and the difference was statistically significant. Apo E4 allele can be clinically useful tool in the early diagnosis of cognitively impaired patients suspected of having AD.