PULSUS
WWW.PULSUSCONFERENCE.COM

Jan Ricny et al., J Spine Neurosurg 2018, Volume 7
DOI: 10.4172/2325-9701-C7-030

Interactions of 17β-hydroxysteroid dehydrogenase type 10 and amyloid β1-42 in Alzheimer's disease

Jan Ricny[1], Zdenka Kristofikova[1], Martin Vyhnalek[2], Jakub Hort[2]
[1]National Institute of Mental Health, Czech Republic
[2]Motol University Hospital, Czech Republic

Statement of the problem: It is suggested that interactions of multifunctional mitochondrial protein 17β-hydroxysteroid dehydrogenase type 10 (17β-HSD10) and amyloid β (Aβ) peptides are involved in the pathogenesis of Alzheimer´s Disease (AD). In our previous research, we evaluated total levels of 17β-HSD10 and levels of 17β-HSD10 – Aβ complexes as prospective biomarkers for AD. In this study, we tried to evaluate the levels of 17β-HSD10 – Aβ1-42 with the aim to find the better biomarker for AD than those available as yet.

Methodology: We detected complexes in cerebrospinal fluid of totally 212 subjects (patients with AD, mild cognitive impairment due to AD, mild cognitive impairment - others, fronto-temporal dementia, amyotropic lateral sclerosis, vascular dementia, subjective memory complaints and controls by means of sandwich ELISA (Enzyme-Linked Immunosorbent Assay).

Results: Significant decreases in the levels of complexes in MCI-AD and AD people were found when compared to heatlhy controls. A comparison with levels of Aβ 1-42, tau and phospho-tau revealed links expecially to Aβ1-42. However, the specificity and sensitivity were not here very high.

Conclusions: 17β-HSD10 – Aβ 1-42 complexes in CSF (Cerebrospinal fluid) do not seem to be the better biomarker of AD than Aβ1-42 itself, because the virtues and disadvantages are quite similar (high sensitivity but relatively low specificity towards AD differencial diagnosis).

Acknowledgements: The study was supported by GA CR P-304-12G069

Biography

Jan Ricny is currently working in Department of Neurobiology at National Institute of Mental Health, Czech Republic. His research interest includes biochemistry of nervous system and its pathological conditions, cholinergic neurochemistry.

jan.ricny@nudz.cz

Notes: