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Bacterial virulence factors in Alzheimer's disease and Mild Cognitive Impairment

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Abstract

Infection with bacterial pathogens is examined over the past three decades as a risk factor for the appearance and development of Alzheimer's disease and Mild Cognitive Impairment (MCI). The aim of this research was the evaluation of two bacterial virulence factors: rhamnolipids (RLs) and flagellin (FliC), as potential biomarkers, in AD and MCI patients. Specifically, RLs and FliC levels were measured with indirect ELISA in blood serum (BS) of 18 AD and 26 MCI patients and in cerebrospinal fluid (CSF) of 54 AD and 47 MCI patients, while 13 and 23 neurologically healthy individuals, respectively, were used as control cohort. RLs were found to be elevated in BS and CSF of AD patients and in MCI patients' CSF compared to the control group. Remarkable increase was observed in CSF RLs of AD patients in comparison with MCI patients. FliC was increased in AD and MCI patients in CSF samples compared to normal individuals

Biography:

Dr Andreadou Eleni obtained a PhD in Biochemistry at the Biochemistry Laboratory of Chemical Department of Aristotle University of Thessaloniki. She is quite experienced on various research topics including Alzheimer's disease. She has participated in 5 research programs and she has 11 publications in international journals and 11 participations in conferences.

Nowadays she is a postdoctoral researcher in Biochemistry Lab of Chemical Department of AUTH in a research funded by the ΕΔΒΜ103 Program (MIS 5047901) co-financed by the European Union (European Social Fund – ESF) and Greek national funds through the Operational Program "Human Resources Development, Education and Lifelong Learning 2014-2020".

Speaker Publications:

1. "Rhamnolipids, Microbial Virulence Factors, in Alzheimer's Disease"
2. "T. thermophilus Rhamnolipids Induce Cytogenetic Damage on Human Lymphocytes and Bind DNA in vitro"
3. "Silver(I) complexes of N-methylbenzothiazole-2-thione: Synthesis, structures and antibacterial activity"
4. "Structural and electronic impact on the photophysical and biological properties of a series of CuI and AgI complexes with triphenylphosphine and pyrimidine-type thiones."
5. "Cobalt(II) complexes with the antimicrobial drug enrofloxacin: Structure, antimicrobial activity, DNA- and albumin-binding"

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