OMICS Group Conferences
Accelerating Scientific Discovery

International Conference and Exhibition on
Neurology & Therapeutics

May 14-16, 2012 Embassy Suites Las Vegas, USA

Thyroid hormones paradox on cholinergic function and cognitive disorders in Alzheimer disease- experimental approach

Adela Elena Joanta, Oana Persa, Remus Moldovan, Nicoleta Decea and Adriana Muresan

Department of Physiology, University of Medicine and Pharmacy "Iuliu Hatieganu" Cluj-Napoca, Romania

Alzheimer disease is the most common neurodegenerative disease among the elderly. Common pathological hallmarks which manifest in Alzheimer disease include senile plaques of amyloid-β aggregates and neurofibrillary tangles comprising of paired helical filaments of tau protein. Other irregularities include neuronal and dendritic loss, accumulation of neuropil threads and dystrophic neurites, and atrophy of the brain. While they are useful in diagnosing AD, pathological hallmarks do not provide insight towards understanding the pathogenesis of the disease. Also, the oxidative imbalance is one of the earliest manifestations of Alzheimer disease actually preceding the classic pathology of amyloid β deposits and neurofibrillary tangles. On the other hand, thyroid dysfunction is associated with cognitive impairment and dementia, including Alzheimer disease. It remains unclear whether thyroid dysfunction results from, or contributes to Alzheimer pathology. White Wistar rats were injected intra-hippocampally aggregated amyloid β-peptide to produce Alzheimer's disease model. The hyperthyroidism was induced in Alzheimer rendered rats by intraperitoneally administration of thyroxine using a low dose and a high dose, daily for 14 days, while the hypothyroidism was induced by daily oral administration of propylthiouracil (0.05%) for 14 days. We investigated the thyroid hormone involvement on cognitive impairment, cholinergic function and on prooxidant/antioxidant balance in Alzheimer's disease model. This research study aimed to examine the feasibility of using thyroid hormone as a therapeutic agent for Alzheimer's disease.

Biography

Dr. Adela Elena Joanta MD, PhD is Associate Professor of Physiology at the University of Medicine and Pharmacy Iuliu Hatieganu, Cluj-Napoca, Romania. She teaches clinical Physiology for undergraduate and postgraduate students, Faculty of Medicine and Dentistry, Romanian, English and French sections.

Her research field is connected to the thyroid hormone and oxidative stress involvement in Neurological disorders. She is the manager of a couple of research projects, European research expert in the seventh Research Framework Programme, international reviewer for: Libertas Academica; Clinical and Experimental Hypertension; and Journal of Neuroscience and Behavioral Health. She published research papers in international journals.

adelaelena@yahoo.com