

12th International Conference on Stroke, Neurology and Cerebrovascular Diseases

Neurological Disorders Volume: 09

August 18-19, 2021 | Webinar

MAFLD-induced metabolic alterations in thalamus: a focus on the exchanging messages between the brain and peripheral tissues.

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Abstract

The alteration of lipid metabolism represents the main consequence of an incorrect lifestyle. Although clear evidence regarding the impact of the altered peripheral metabolism on central nervous system doesn't exist, emerging discoveries show a possible correlation between peripheral and brain metabolism in the context of specific diseases, such as metabolic associated fatty liver disease (MAFLD). Our studies have been aimed at investigation of changes with MAFLD-induced alteration of thalamic metabolism overtime, using 1H-MRS in an in vivo model of the disease. The increase in the levels of total N-acetylaspartate, total creatine, total choline, and taurine, associated with a reduction in total cerebral brain volume suggests an impairment of the energetic metabolism due to MAFLD progression. This metabolic imbalance might also cause cerebral vessel injury, structural damage to brain cells and dysfunctions of neurotransmitter release, highlighting the need to codify the encrypted language underlying the dialogue between brain and periphery in health and disease.

Biography

Micaela Gliozzi has completed her PhD on 2006 at Unical (Italy) and have continued her activity at University “Magna Gæcia” of Catanzaro as Researcher in Pharmacology. Moreover, she obtained a specialization degree in Bioethics at Catholic University of the Sacred Heart in Rome. Her research activity is mainly aimed at studying molecular mechanisms underlying cardiovascular dysfunction resulting from altered lipid/glucose metabolism in various experimental models. Particularly, it is aimed to evaluate the effects of natural antioxidants in metabolic syndrome and diabetes, representing an important risk factor for the onset of cardiovascular diseases. Actually, she is studying the possible correlation between metabolic disorders and CNS dysfunction. She is co- author of 66 papers in reputed journals and is a component of the editorial board of some journals. She is a member of an international and interdisciplinary research group editing “Wonderverse”, a blog aimed to highlight the fundamentally relational character of Nature.

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