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Correlation between growth and dysfunction of microglial cells with schizophrenia**Aikaterini Arvanitiis***Democritus University of Thrace, Greece*

Microglia are the resident mononuclear phagocytes of the central nervous system(CNS) also involved in synaptic formation, maintenance of biochemical homeostasis, neuronal circuit maturation during development and experience-dependent remodeling of neuronal circuits in the adult brain. Schizophrenia is a neurodegenerative disease that presents multiple biochemical irregularities in the dopamine, serotonin, acetylcholine, glutamate, and GABA systems, as well as changes in the immune system. The involvement of microglial cells in the developing and functional brain seems to be a dynamic, crucial yet not utterly explored procedure. Microglial cells follow different patterns of maturation and activation. Recent studies indicate the role of microglial cells as proinflammatory regulators and synaptic pruning mediators and the probable contribution of their dysregulation and abnormal activation in the onset and progress of schizophrenia through their influence on the synaptic environment. Evidence provided by morphometry and micrometry techniques show abnormal microglia presence associated with duration, course and age at onset of disease, dystrophic and accelerated aging cells in gray matter of the prefrontal cortex, as well as region-dependent morphological patterns of those cells in schizophrenia. In this poster, literature search was conducted using PubMed and the key words "schizophrenia and microglia", "neuro inflammation and schizophrenia", "synaptic pruning and schizophrenia", "synaptic pruning and schizophrenia". 52 articles were reviewed and we attempted to glean indicators of the correlation between microglial dysfunction and schizophrenia. There are consistent indications that highlight the involvement of microglial irregular function, their inflammatory induction and aberrant synaptic pruning stimulation in distinct stages of development, in the neuropathology of schizophrenia. More studies are needed in order to punctuate the precise physiological substratum.

Biography

Aikaterini Arvanitiis a Greek doctor of medicine graduate and currently a first-year resident of Psychiatry. Passionate with the psychoneuroimmunology of the psychiatric nosology spectrum even from her undergraduate years in medicine, she enriches her knowledge and study field as a student in the "Science of Stress and Health promotion" master's degree in Athens with dominant interest in the field of neuroscience, neurophysiology and neuropathology of challenging psychiatric diseases, especially of eating disorders.