Effects of selective lesions of the medial septal neurons on exploratory behavior and recognition memory

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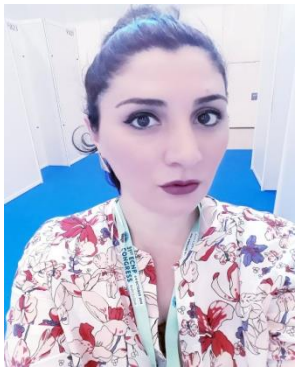
Investigation of cholinergic system and memory interaction has especially become the object of scientific attention due to the clinical and experimental data, in which the severity of dementia in Alzheimer's disease (AD) was found to have a positive correlation with the extent of the cholinergic loss. The animal models of cortical and hippocampal cholinergic depletion have been widely used to induce relevant cognitive deficits for the purpose of identifying potential new therapeutic compounds for the treatment of AD. The septum is connected to the hippocampus via the fimbria-fomix, These projection are predominantly cholinergic and GABAergic. Lesions of the fimbria-fomix, or electrolytic lesions of the MS, impair hippocampal-dependent learning and memory. The observation of similarities between cognitive processing in the rat and human is important, but the development of a reliable rat model of recognition memory deficit also provides a powerful tool for development of drugs for AD and neurodegenerative diseases.The purpose of this study was to investigate ability to acquire and use spatial (or non-spatial) information as well as to habituate exploratory activity over time in sham-operated, electrolytic, neuro- or immunotoxic MS lesioned rats. The animals were randomly assigned to different experimental groups. Animals were tested in a open field. Our results indicate that: MS is sufficient for spatial recognition, but is not sufficient for object recognition memory, the selective loss of septohippocampal cholinergic or noncholinergic projections does not disrupt the function of the hippocampus to a sufficient extent to impair spatial recognition memory. Therefore, the present study demonstrates dissociation between the two major components (cholinergic and noncholinergic) of the septohippocampal pathway in exploratory behavior assessed in the open field.

Keywords- Alzheimer's disease, memory, animal model, medial septum,

Professional Biography

Lali Kruashvili has completed his PhD at the age of 28 years from St.Andrew the Firs-Called Georgian University of the Patriarchy of Georgia, She work in the field of neuroscience for 8 years. Since being a Master work. She have been involved in the projects concerned with the research of neurophysiological mechanisms of behaviour and memory. After receiving Master degree she continued to work in the same lab as a researcher.

She is involving in different research project, also had some personal research grants (Financed by Shota Rustaveli national science foundation of Georgia). She actively participate in the international and local conferences. She has published 12 papers. Since 2017 years she work as a Invited Lecturer in Ivane Javaxishvili State University, Faculty of Medicine.



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Participate in this conference is important for me, for my future development, I hope you will select my abstract for presentation.