



DBS_F20rat \ \ DESCRIBING PATHOPHYSIOLOGY TO PROMOTE FOCAL THERAPY IN TREATMENT OF SCHIZOPHRENIA – AN ANIMAL EXPERIMENTAL STUDY.

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SUCCESSFUL PROJECTS

Schizophrenia is characterized by profound disruptions in cognition and emotion. Despite pharmacotherapeutic progresses, a considerable percentage of patients has no or only partial response to treatment. Development of more effective treatments is indispensable but crucially depends on an advanced elucidation of the progressive pathophysiological mechanisms underlying schizophrenia. Given methodological and ethical limitations of human studies, the use of appropriate animal models is a promising tool for such endeavours. The present project uses the maternal immune stimulation rat model of schizophrenia and deep brain stimulation (DBS) as an investigative tool to modulate neural activity of selected brain areas and associated networks in order to i) correlate the emergence of a schizophrenic phenotype with the development of dysfunctions at different levels of neurobiological integrity; ii) study bi-directional consequences of DBS of selected brain areas and iii) study the preventive potential of presymptomatic activity-modulation of selected brain areas on the emergence of behavioral and neurobiological abnormalities. The project will foster our understanding of dysfunctional neural circuitries in schizophrenia and set a strong interdisciplinary foundation for the translational application and advancement of DBS as a novel focal and causative strategy in the treatment of therapy-resistant schizophrenia.

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