

Attentional Set-Shifting Deficits Following Acute Systemic PCP Administration in a novel Set-Shifting Test in Mice. A Preliminary Study

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Schizophrenia is a major psychiatric disease characterized by both positive (illusions etc) and negative (attentional deficits, memory and learning deficits etc) symptoms. Schizophrenic patients demonstrate cognitive deficits including impaired flexibility in altering attentional sets. Impairment in attentional set-shifting can be tested in humans with the Wisconsin card sorting test (WCST). Several tests analogous to the WCST have been developed in animals. To our knowledge, no test has been developed aiming to assess attentional set-shifting deficits in the mouse so far. In this study we have tried to develop a

paradigm using a response-visual cue discrimination task in radial maze in C57BL/6N mice and have investigated the effect of acute systemic administration of the NMDA receptor antagonist phencyclidine (PCP) on extra-dimensional set-shifting (1.5 mg/kg and 3 mg/kg intraperitoneal and 1.5 mg/kg subcutaneous). Our preliminary data show that PCP administration impaired shifting from a response to a visual-cue strategy and significantly increased perseverative errors. These results are in line with data of others supporting the role of the NMDA receptor blockade in extra-dimensional attentional set-shifting.