P29.04
Impaired spatial learning in schizophrenic patients

L. Friege[1]*, D. Hoell[1], R. Ferstl[1], B. Leplow[2], J. Aldenhoff[1]. [1]*Department of Psychiatry & Psychotherapy, University of Kiel;* [2]*Department of Psychology, University of Halle-Wittenberg, Germany*

We hypothesized a deficit in spatial learning and memory in schizophrenic patients more distinct than the known decrease in spatial working memory. This view is supported by studies which show a relationship between spatial learning, the frontal lobe, the hippocampus, and the NMDA-receptor-system, structures that are impaired in schizophrenia.

20 schizophrenics and 20 healthy controls matched for age, gender, and years of education were confronted with an open field "locomotor search through" task: the Kiel Locomotor Maze. This task incorporates a spatial working memory and a spatial reference memory component derived from widely known paradigms in animal research: the Morris Water Maze and Olton's radial arm maze.

Results show that despite a comparable exploration behavior, deficits in spatial learning can be observed in these patients. Schizophrenics made more errors ($p = 0.038$) and some did not achieve a learning criterion of two consecutive errorless trials, whereas all controls did ($p = 0.032$).

It can be concluded that there is in fact a deficit in learning spatial information in schizophrenics.

P30.02
Neurotrophins in prenatally damaged brain: implications in psychiatry

M. Fiore[1]*, A. Iannitelli[2], G. Bersani[2], J. Korf[3], L. Aloe[1]. [1]*CNR, Istituto di Neurobiologia e Medicina Sperimentale, Roma;* [2]*III Clinica Psichiatrica, Universita' di Roma "La Sapienza", Italy* [3]*Department of Biological Psychiatry, University of Groningen, The Netherlands*

Damage during prenatal development of certain brain regions as the entorhinal cortex and hippocampus can produce psychiatric disorders associated with stress, anxiety and impairments in cognition. Because NGF and BDNF play a crucial role in brain neurogenesis we used animal models of entorhinal cortex and hippocampus maldevelopment to study neurotrophins and behavior. We injected in pregnant rats antimitotic compounds, the methylazoxymethanol (MAM) and or Bromodeoxyuridine (BrdU) at gestational day 11 or 12 and we analyzed the effects in their progeny. Prenatally treated MAM rats had impairments in memory, displacement behaviors, locomotion, attentional capabilities and pain sensitivity (only in young rats). These changes were associated with disrupted development of both entorhinal cortex and hippocampus determining a decrease ($p<00.5$) in NGF/BDNF production of these two brain areas. Moreover, we found altered brain ChAT and NPY distribution suggesting a link between hippocampus and entorhinal cortex maldevelopment and changes in neurotrophin levels. This study suggests that damage at specific time points of brain neurogenesis can be a useful tool to investigate anxiety, attentional and emotional disorders, including some aspects of human neuropsychiatric disorders.

P30. Neurodevelopment

P30.01
Childhood motor impairment and persistent anxiety in adolescent boys

E. Sigurdsson[1]*, J. van Os[2], E. Fombonne[3]. [1]*Landspitali-University Hospital, Iceland*
[2]*Maastricht University, The Netherlands*
[3]*Institute of Psychiatry, UK*

Objective: Neurodevelopmental impairments have been associated with early-onset schizophrenia, early-onset bipolar disorder and childhood-onset affective disorder. We investigated whether delayed childhood motor skills predicted persistent anxiety in adolescence among 6,850 subjects from a national 1958 UK birth cohort.

Method: A historic cohort study using data from the National Child Development Study collected at 7 years, 11 years and 16 years. Odds ratios were used to examine the effect of motor impairment on persistent anxiety after adjusting for sex, social class, birthweight, depressive symptoms and, by proxy, early-onset psychoses.

Results: Boys with poor motor skills had more than 3 fold the odds of maternally-rated anxiety at the age of 11 and 16 years (adjusted OR 3.29, 95%CI 2.0–5.4, likelihood ratio test, $p<0.001$). No effect was observed for girls (adjusted OR 0.95, 95%CI 0.3–2.7, likelihood ratio test , $p=0.92$).

Conclusions: Childhood motor impairment appears to be strongly associated with persistent anxiety among male but not female adolescents. The effect modification by gender was greater than expected as was the magnitude of the effect for boys. Both warrant replication and further examination.

P31. Neuroendocrinology

P31.01
Mental disorders in the patients with thyroid gland diseases

N. Piatnitski*, S. Tsirkin. *Mental Health Centre of RAMS, Moscow, Russia*

For clarification of relationships between mental disorders and thyroid gland diseases 63 patients with thyroid gland diseases were investigated at the endocrinological department of Moscow Medical Academy. The group of patients with thyroid gland diseases was separated in 2 subgroups: the patients with primary hypothyreosis(autoimmune thyreoiditis, 29 cases) and the patients with hyperthyreosis (thyrotoxicosis, toxic nodular goitre,subacute thyreoiditis, 34 cases).

The frequency of schizophrenic spectrum disorders (schizophrenia, schizoaffective and schizotypal disorders) was 14,7% in the patients with hyperthyreosis. The schizophrenic spectrum disorders were lacking in the patients with primary hypothyreosis (0%). On the contrary, the frequency of affective disorders was higher in the patients with hypothyreosis (48,27% and 23,5% respectfully; $0,05<p<0,10$). The differences in the frequency of neurotic disorders in the patients with hypothyreosis (20,69%) and in the patients with hyperthyreosis (8,8%) by $0,20<p<0,30$ were statistically insignificant, casual. Our findings correspond with the cited by E.B.Boswell et al.(1997) 50% frequency of depressions in the patents with hypothyreosis and 28% frequency of depressive disorders in the patients with hyperthyreosis.

https://doi.org/10.1016/S0924-9338(02)80684-8 Published online by Cambridge University Press