compare the cognitive deficits in bipolar disorder (BD) and schizophrenia (SZ).

Methods: A systematic review of the literature of neuropsychological studies comparing BD and SZ was made, beginning in the year 1990 and ending in April 2004. Thirty studies have been selected for this review.

Results: BD exhibit a widespread of cognitive abnormalities with a pattern of deficits ranging from poor social functioning to executive dysfunctions, but seem to have preserved premorbid intellectual functioning. With regards to schizophrenia, BD show a lesser degree of deficits, even in periods of remission. In general, BD has a similar pattern of alterations, except for premorbid intelligence and verbal memory, which are almost always in the normal range.

Conclusion: In general, cognitive deficits are not specific of one or the other disease. However, the differences seen in premorbid intellectual functioning and verbal memory could be due to the presence of psychotic features, and to environmental factors (stressful events, duration of the disease and number of hospitalisation) and could also be due, at another level, to differences during the neurodevelopmental phase.

S-61-03

Diagnosis-specific or unspecific disposition genes for schizophrenia and affective disorders?

W. Maier. *Department of Psychiatry, Univ, Bonn, Germany*

Schizophrenia and affective disorder have been considered to be nosologically and etiologically distinct disorders. This postulate is challenged by progress in new biological research. Both disorders are strongly influenced by genetic factors; thus genetic research is a main contributor to this discussion. We review current evidence of the genetic relationship between schizophrenia and affective disorders, mainly bipolar disorder (the various genetic research methods have been particularly applied to bipolar disorder). Recent family and twin studies reveal a growing consistency in demonstrating cosegregation between both disorders which is difficult to detect with certainty given the low base rates. Systematic molecular genetic search for specific genes impacting on either disorder has now identified one gene which is apparently involved in both disorders (G72/G30); other candidate genes reveal some evidence to present as susceptibility genes with modest effects for each of both disorders: particularly COMT and BDNF, but less consistently so. There is room for speculations of other common susceptibility genes, given the overlap between candidate regions for schizophrenia and those for bipolar disorder emerging from linkage studies.

S-61-04

Depression in schizophrenia and affective disorder - cluces to affective-emotional dysfunction from the viewpoint of functional psychopathology

W. Gaebel. *Heinrich-Heine University Dues, Duesseldorf, Germany*

Objective: Successful aetiopathogenetic research in psychiatry depends on the valid characterization and diagnosis of mental disorders. Usually this is accomplished by use of contemporary diagnostic systems such as DSM-IV or ICD-10. It has been questioned, however, whether this operationalized descriptive approach generates phenotypes homogeneous and valid enough to be the starting point for the sophisticated questions and research methods of neuroscience and molecular biology. The emergent neurobiological discoveries of brain function will have distinctly less clinical relevance and meaning if there is no parallel development of the capacity to delineate and quantify specific behavioral phenomena.

Methods: Against this background, depressive syndromes in schizophrenia and affective disorder will be assessed for their phenotypal homogeneity, their neuropsychological and neurobiological correlates, and their genetic profile. The aim is to draw conclusions whether both syndromes refer to dysfunctions of the same affective-emotional circuits, though at different neural components and of different origin.

Conclusion: Diagnosis in biological psychiatry should take a more syndrome- or even symptom-oriented approach. Moreover, the traditional descriptive psychopathological orientation should be modified towards a more experimental and functionally oriented approach including the concept of endophenotypes.

Wednesday, April 6, 2005

S-65. Symposium: New challenges to the dichotomy schizophrenia versus affective disorder - part II

Chairperson(s): Wolfgang Maier (Bonn, Germany), Heinz Häfner (Mannheim, Germany)
08.30 - 10.00, Gasteig - Philharmonie

S-65-01

Glutamate psychopharmacology of schizophrenia and bipolar disorder: A neuroscientific dissection

S. Dursun. *Neuroscience + Psychiatry Unit University of Manchester, Manchester, United Kingdom*

Objective: There is growing evidence indicating a possible common neuronal-pathway dysfunction in Schizophrenia(Sch)and bipolar disorder (BD.

Methods: The evidence for the common-pathway dysfunction in Sch and BD comes from preclinical-healthy volunteer-and clinical trials data. This common pathway involves pedominantly the glutamate-GABA connectivity dysfunction.

Results: Gultamate GABA common pathway connectivity dysfunction is supported by the well established efficacy of atypical antipsychotic drugs and also anitconvulsant drugs such as lamotrigine and divalproex sodium (add-on) in both Sch and BD

Conclusion: The aim of the presentation will be, to dissect the neuroscientific evidence which indicates a common pathway dysfunction of glutamate & GABA in Sch and BD.

S-65-02

Neurotrophic factors in schizophrenia and affective disorders: Basis for novel therapeutic approaches?

H. Ehrenreich. *Max Planck Institute for Experimental Medicine, Göttingen, Germany*

Objective: Schizophrenia and affective disorders are increasingly recognized as organic brain diseases involving

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degenerative processes. These processes, once turned on, are not disease-specific but part of a final common deleterious pathway characterized by disturbed neurotrophic/neuroprotective capacity. Neuroprotective therapy in these diseases should reduce degeneration and enhance regeneration. As an example, erythropoietin (EPO) is a candidate compound for neuroprotection in neuropsychiatric disorders. We have prepared the ground for its application in a first neuroprotective add-on strategy in schizophrenia, aiming at improvement of cognitive function as well as prevention/slowing of degeneration.

Methods: Methods and Results: Using rodent studies, immunohistochemical analysis of human post mortem brain tissue and nuclear imaging technology in man, we demonstrate that: (1) peripherally applied recombinant human (rh) EPO efficiently penetrates into the brain, (2) rhEPO is enriched intracranially in healthy men and more distinctly in schizophrenic patients, (3) EPO receptors are densely expressed in hippocampus and cortex of schizophrenic patients but less in healthy controls, (4) rhEPO attenuates haloperidol-induced neuronal death in vitro, and (4) peripherally administered rhEPO enhances cognitive functioning in mice in the context of an aversion task involving cortical and subcortical pathways believed to be affected in schizophrenia. These observations, together with the known safety of EPO, render it an interesting compound for neuroprotective add-on strategies in schizophrenia and other human diseases characterized by a progressive decline in cognitive performance. A multicenter proof-of principle trial on "EPO in chronic schizophrenia" will be unblinded in April 2005.

S-65-03

Gene expression profiling: Disease-specific or common patterns?

P. Falkai. *Dept. of Psychiatry Saarland University, Homburg, Germany*

Objective: Recently risk genes for schizophrenia like dysbindin and neuregulin and for bipolar disorders like G 72 were described. Interestingly G 72 seems to be involved into the pathophysiology of schizophrenia and bipolar disorder as well. Gene expression studies give important information of the specific distribution of these risk genes in the pathophysiologically relevant brain structures in the mentioned disorders.

Methods: Using Medline and PubMed with the keywords "affective disorders, psychotic and gene expression" 197 references were found. Based on the abstracts 16 articles were identified dealing with the outlined topic. There are only a few studies where post-mortem tissue from patients with bipolar disorders and schizophrenia in comparison to control subjects were researched at the same time. Therefore the results from different papers are summarized and used for a comparison of gene expression profiles between the two disorders.

Results: Interestingly neuregulin shows a specific distribution in the frontal cortex in schizophrenia depending on the specific isoform. Dysbindin was found to be reduced in the glutamatergic terminals of the hippocampal formation in schizophrenia. These and other results are discussed in view of the pathophysiology of schizophrenia.

S-65-04

Are antipsychotics effective in schizophrenia and affective disorders?

W. Fleischhacker. *Psychiatrische Univers.-Klinik Innsbruck, Innsbruck, Austria*

New generation antipsychotics have been evaluated against a host of psychiatric disorders and syndromes beyond those of the schizophrenia spectrum. With regard to affective disorders they have been studied in acute bipolar mania, bipolar depression as well as in long-term recurrence prophylaxis. Some evidence is also available concerning treatment refractory depression. Within the schizophrenia spectrum, these agents, next to demonstrating antipsychotic efficacy, also appear to have advantages over traditional neuroleptics in treating concomitant depressive symptoms, especially during the actue phases of the illness. Aripiprazole, olanzapine, quetiapine, risperidone and ziprasidone have demonstrated good antimanic effects either as monotherapy or in combination with mood stabilizers. Recurrence prevention trials are still scarce but at least olanzapine has been shown to prevent both manic and depressive episodes. Clozapine has been suggested to be helpful in treatment resistant bipolar patients and very recent results point to antidepressant effects of quetiapine. A combination of fluoxetine and olanzapine has helped patients with treatment refractory depression. All in all, the evidence is most convincing for antipsychotic and antimanic properties of second generation medications. Whether or not these drugs also have true antidepressant effects, both during acute and maintenance treatment remains to be seen.

S-65-05

Synthesis of part I and part II

W. Maier. *Department of Psychiatry, Univ, Bonn, Germany*

Wednesday, April 6, 2005

S-69. Symposium: Imaging genomics in psychiatric research

Chairperson(s): Eva Meisenzahl (München, Germany), Colm McDonald (London, United Kingdom)
08.30 - 10.00, Holiday Inn - Room 1

S-69-01

A brain bank for the identification of genes affecting brain structure

E. Meisenzahl. *Psychiatrische Klinik der Ludw, München, Germany*

S-69-02

Genes which influence the structure of the normal brain

I. Giegling, D. Rujescu, A. Kirner, T. Frodl, G. Schmitt, S. Ufer, G. Leinsinger, U. Hegerl, K. Hahn, H.-J. Möller, E. Meisenzahl. *University of Munich Dept. of Psychiatry, Munich, Germany*

Despite the considerable interindividual variation in the size of the human brain, the etiology of less extreme differences is largely unknown. Twin studies point towards a substantial heritability of differences in brain size, and more detailed analyses indicates that strong genetic influences contribute to the variability of each brain structure studied up to now. Recently it was shown that the estimated heritability is 81% for intracranial volume, 79% for the midline cross-sectional area of the corpus callosum, and 79% for lateral ventricle size. Interestingly, the manner in which the brain responds to the environment with advancing age is also genetically determined to a large degree, as demonstrated for the enlargement of the lateral ventricles. Despite the major genetic contribution to

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