

dien vor, in denen Therapien bei Patienten mit selbstschädigenden Verhaltensweisen hinsichtlich ihrer Wirksamkeit untersucht wurden. Therapeutische Mitteilungen beziehen sich in der Regel auf Einzelfallberichte oder kleine Fallzahlen. Die dabei zur Anwendung kommenden psychotherapeutischen Strategien reichen von psychodynamisch orientierten Verfahren bis zu eher klassischen Verhaltenstherapien. Vereinzelt werden auch medikamentöse Behandlungen vorgeschlagen, z.B. mit Opiatantagonisten, mit selektiven Serotoninwiederaufnahmehemmern (SSRI), mit Carbamazepin (bzw. mit Valproinsäure) oder mit Neuroleptika.

In der eigenen Abteilung werden Patienten mit heimlichen Selbstbeschädigungen in der Regel über einen längeren Zeitraum (meist mehrere Jahre) zunächst stationär (3–6 Monate) und danach ambulant behandelt, wobei eine am Einzelfall orientierte tiefenpsychologisch fundierte niederfrequente Psychotherapie durch einen Therapeuten erfolgt. Aus unserer Sicht kommt lediglich bei Patienten ohne (schwere) strukturelle Ich-Störung alternativ zur Langzeittherapie eine konfliktzentrierte stationäre Kurzzeit-Behandlung von 10–12 Wochen in Frage.

Im Vortrag beziehen wir uns hinsichtlich der Ergebnisse (im Sinne einer kumulativen Einzelfalldarstellung) auf 15 Patienten mit heimlicher Selbstbeschädigung. 12 (80%) dieser Patienten wiesen eine Borderline-Persönlichkeitsstruktur auf. Mehr als die Hälfte der Patienten berichtet von sexuellen Übergriffen.

Im Mittelpunkt der tiefenpsychologischen Therapie steht vornehmlich die Auseinandersetzung um die sadomasochistischen Beziehungsstrukturen der Patienten und ihrer Reinszenierung durch das Symptom, sowie die defizitären ich-strukturellen Anteile des Patienten. Ein besonderer Aspekt der Arbeit mit diesen Patienten besteht darin, dass hier der Therapeut aktiv strukturierend und durch klare Grenzziehung schützend, ggfs, auch durch das Angebot kurzer stationärer Kriseninterventionen, den Therapieablauf gestalten muss. Als Folge der Gegenübertragung, die bei ärztlichen Therapeuten erwartungsgemäß besonders problematisch sein kann, kann es dazu kommen, dass der Therapeut zum sadistisch kontrollierendem Objekt wird. Intensive Supervision durch erfahrene Therapeuten ist daher bei der Behandlung von Patienten mit artefiziellen Syndromen erforderlich.

#### DISSOCIATIVE SYMPTOMS AND SELF-MUTILATION IN ADOLESCENT BORDERLINE PERSONALITY DISORDER

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The purpose of this study was to examine the phenomenology of dissociation and self-mutilation in a clinical group of adolescents. The relationship between the clinical characteristics of self-mutilation, degree of dissociation and a diagnosis of borderline personality disorder was analysed. The significance of different types of childhood trauma was also examined. 149 consecutive admissions including inpatient and outpatient treatment at the department of child and adolescent psychiatry, University of Heidelberg, were investigated. Patients, 12–19 years old, completed our German version of the Dissociative Experiences Scale (DES) and standardized measures of psychopathology. The psychiatric diagnoses were assessed by ICD-10. The different types of reported childhood trauma and the characteristics of self-mutilation were differentiated and categorized. In accordance with findings in North American studies we found a strong association between a diagnosis of borderline personality disorder and child abuse. Adolescents with a borderline personality disorder and a high score on the Dissociative Experiences Scale are characterized by more sexual abuse and self-mutilation. Also they received more comorbid diagnoses of affective disorder, suicidal ideation and bulimic behaviour. Different benefits of psy-

chotherapy and psychopharmacotherapy are discussed with respect to a developmental perspective on borderline personality disorder in adolescents.

## S20. The psychoses as deviations in brain symmetry

*Chairmen: T Crow, W Maier*

### THE GENETICS OF HANDEDNESS AND ITS IMPLICATIONS FOR PATHOLOGY

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The right shift theory suggests that there is a genetic influence on human handedness due to a single gene for cerebral asymmetry. This gene induces the typical pattern of cerebral specialization by giving a relative advantage to the left cerebral hemisphere, at the expense of some disadvantage to the right hemisphere. The latter is associated with relative weakness of the left hand and thus the chances of dextrality are raised in gene-carriers above the 50% expected in non gene-carriers and in other primates.

The benefits conferred by the gene (rs+) for speech and other language skills are associated with costs to right hemisphere skills, both physical and cognitive. There could be a genetic balanced polymorphism with heterozygote advantage for the rs locus. People carrying one copy of the gene might enjoy the benefits of hemisphere specialization with minimal costs to the right hemisphere, while those carrying no copy are at risk for aspects of speech development, and those carrying two copies are at risk for poor visuospatial and other abilities.

The implications of this theory for pathology are that individual differences in cognitive and other skills are expected to arise as part of the natural balance of costs and benefits of the rs locus. This approach has contributed to the analysis of problems of dyslexia, because it has led to the discovery that dyslexics with and without phonological problems differ significantly for handedness as expected by the theory. Further progress may be made when the genotypes of the rs locus are considered in relation to the chance differences which are thought to form a universal background to all asymmetries.

### ANATOMICAL EVIDENCE FOR DEVIATIONS IN ASYMMETRY

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A variety of morphological changes has been described in brains of schizophrenic patients. Besides enlargement of lateral and third ventricles and reduced cortical volumes especially in frontal and temporal association areas, structural cerebral asymmetry is disturbed. While first reports of a reduced asymmetry of the sylvian fissure and planum temporale remain controversial, absence of normal frontal (right > left), occipital and temporal lobe (left > right) asymmetry seems to be a replicable finding in several CT and MRI studies. At least one study indicates that reduced frontal and occipital lobe asymmetry is relatively specific for schizophrenia and does not occur

in patients suffering from affective disorder or neurosis. The presentation summarizes most recent findings discussing functional and clinical implications.

### THE ORIGIN OF SCHNEIDERIAN FIRST-RANK SYMPTOMS AND THE EVOLUTION OF LANGUAGE

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First-rank symptoms were proposed by K Schneider as pathognomonic for schizophrenia although he disavowed any pathophysiological interpretation. More recently the incidence of schizophrenia (defined by the presence of first-rank symptoms) has been demonstrated to be relatively constant across cultures in the WHO Ten Country Study.

In morphologic and functional studies [1] there is evidence in schizophrenia of a loss or diminution of cerebral asymmetry. It will be argued that this is consistent with a failure to establish dominance for language unequivocally in one or other cerebral hemisphere, and that the peculiar nature of first-rank symptoms arises from an abnormal interaction between dominant and non-dominant hemispheres. This theory is consistent with the view of Trimble [2] that such symptoms relate to the dominant temporal lobe; and of Nasrallah [3] that they arise as intrusions from the non-dominant hemisphere. According to this concept schizophrenia has its origin in the variation generated in the evolution of the homo-sapiens' specific capacity for language [4].

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- [4] Crow, T.J. (1995) Constraints on concepts of pathogenesis: Language and the speciation process as the key to the etiology of schizophrenia. *Arch Gen Psychiatry* 52, 1011–1014.

### PATTERNS OF HEMISPHERE SPECIALIZATION AS INDICATORS OF VULNERABILITY TO SCHIZOPHRENIA

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Human brains reveal neuroanatomic asymmetry and hemisphere-specific involvement in particular processes and tasks. Schizophrenia is characterized by deviations from the physiological cerebral asymmetry and hemisphere-specific deficits in size of brain areas, function and blood flow. It has been proposed that the association with laterality-specific patterns present a cue to the etiology of schizophrenia. The origins of the physiological asymmetry and of deviations from asymmetry remain obscure; a codetermination by genetic factors is discussed.

Hemisphere specialization and asymmetry scores were shown to be attenuated in first episode schizophrenics of medication as compared to controls in a first study. We subsequently explored two putative determinants (sizes of hemisphere-specific brain areas and genetic factors) of the deviation of cerebral functional asymmetry in schizophrenia by a series of studies:

1. Hemisphere-specific sizes of brain areas and neuroanatomic asymmetry scores were related to functional specialization in first episode schizophrenics off medication and controls.

2. Functional hemisphere specialization was compared between healthy siblings of schizophrenics and of controls.

3. Genetic determination of patterns of functional hemisphere specialization, of other indicators of laterality and sizes of hemisphere-specific brain areas was assessed in a series of healthy twins.

Although deviant patterns of functional hemisphere specialization cosegregated with schizophrenia in families, evidence for a genetic link was not found. However, inconsistencies between indicators of laterality and hemisphere specialization is also cosegregating with schizophrenia; inconsistency between these indicators demonstrates a substantial determination by genetic factors which might also contribute to schizophrenia.

### NEUROPSYCHOLOGICAL AND CLINICAL CORRELATES OF STRIATAL ASYMMETRY IN SCHIZOPHRENIA

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Research literature consistently suggests that anatomical abnormalities in schizophrenia are asymmetric, and more marked in the left hemisphere. Findings from neuromorphological, neurophysiological and neuropsychological studies support the hypothesis that the striatum could play a key role in the pathophysiology and in the production of symptoms and signs in schizophrenia.

We used an inversion recovery magnetic resonance protocol with the assistance of the Talairach atlas to identify striatal structures in thirty-five schizophrenic patients and twenty-four healthy controls. Patients also underwent a neuropsychological evaluation of executive functions by Wisconsin Card Sorting Test (WCST) and clinical assessment by standardized rating scales (Krawiecka-Manchester Rating Scale and Outcome Scale).

Results show that poor WCST performers have a reduction of the striatum complex and caudate nucleus bilaterally, and the left putamen with respect to controls. Significant correlations were only seen between neuropsychological indexes and left striatal measures. Left striatal structures also show negative correlations with positive and negative symptoms, suggesting that schizophrenic patients with more severe symptoms have more lateralized morphological anomalies. On the contrary, WCST indexes do not correlate with symptomatology but with the outcome measure.

The evidence for a lateralized dysfunction is strongly suggestive of hypotheses regarding the relationship of hemispheric asymmetries of function and schizophrenia.

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## S21. Towards standard European measures of outcome

Chairmen: I Marks, C Pull

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### TOWARDS STANDARD EUROPEAN MEASURES OF OUTCOME

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Europe-wide use and exchange of common measures of clinical outcome has come closer with computerisation e.g. of HoNOS (the UK's Health of the Nation Outcome Scale) and of patient-specific, syndrome-specific and generic ratings in systems such as CORM (Clinical Outcome and Resource Monitoring) which also measures