

charge (up to one week) and 3-month follow-up. At 3-month follow-up all treatment groups exhibited little drop-out and self damaging behaviour. Those patients with treatment as usual had, however, less adherence to treatment, higher treatment costs and more work disruption. In addition, provision of supplemental psychotherapy (psychodynamic crisis intervention or psychodynamic psychotherapy) was associated with better global functioning and increased adjustment at work. The data indicate that provision of supplemental psychotherapy is cost-effective in borderline patients with suicidal attempt.

Monday, April 4, 2005

S-26. Symposium: Neurobiological, genetic and developmental aspects of personality disorders

Chairperson(s): Kristina Fast (Munich, Germany), Birgit Völlm (Manchester, United Kingdom)
08.30 - 10.00, Holiday Inn - Room 3

S-26-01

On the interface of genetic and environmental factors in the neurobiology of antisocial personality disorder

S. C. Herpertz. *Rostock Universität Psychiatrie & Psychotherapie, Rostock, Germany*

There is a close interaction of genes and environment in the development of what is characteristic of an individual. On the one hand, several genes have been identified to be associated with antisocial, violent behavior and, on the other hand, there are specific psychosocial risk factors predisposing to an unfavorable social development. However, in the field of personality disorders, the antisocial type appears to be a particularly good example of the interplay between genetic and psychosocial factors. For example, genetic polymorphism of the MAO-A gene has been shown to moderate the effect of maltreatment on antisocial development. Psychophysiological abnormalities appear to constitute a biological mediator through which antisocial behavior is passed from one generation to the next. While significant heritability for phasic electrodermal activity has been reported from twin studies, psychosocial factors have also been shown to influence electrodermal reactivity. An overview of findings including neurophysiological and neuroimaging data will be presented that suggest that genetic and environmental acts do not act independently from each other but closely interact in the etiology of antisocial personality disorder.

S-26-02

The influence of juvenile socio-emotional experiences on the functional development of limbic brain systems

J. Bock. *Otto von Guericke University Institut der Biologie, Magdeburg, Germany*

Objective: Juvenile, emotionally modulated learning events, such as the formation of an emotional bond between a newborn animal and its mother, are fundamental for the establishment and maintenance of synaptic networks in the developing brain. Clinical, as well as animal studies, have been shown that disturbances of this emotional attachment lead to alterations of brain

organisation, that could influence the development of emotional and cognitive capabilities.

Results: During early pre- and postnatal development dramatic neuronal and synaptic changes occur in limbic cortical and subcortical brain areas. A number of studies have been shown that positive or negative emotional experiences have an enormous impact on these developmental processes. In particular, emotional experiences with the social environment lead, comparable to the principles of Darwin, to a process of synaptic selection and reorganization in regions of the limbic system. Recent findings show that synaptic networks are formed particularly in limbic brain regions, which are responsible for the adaptation of limbic functions to positive or negative environmental situations.

Conclusion: These early pre- and postnatal developmental processes, influenced by the neuromodulatory "emotion-systems" i.e. dopaminergic, serotonergic and noradrenergic fiber systems, are the brain biological basis for the cognitive and emotional behavioral development. Unfavourable environmental conditions such as pre- or postnatal stress and emotional deprivation lead to disturbances or retardation of the experience induced structural alterations and may underlie the development of psychosocially induced mental disorders.

S-26-03

Neurobiology of patients with borderline personality disorder: CNS imaging, neuropsychological and clinical symptoms

T. Zetzsche. *Ludwig-Maximilians-University, Munich, Germany*

Introduction: Borderline personality disorder (BPD) is associated with multiple symptoms, such as depressive syndromes and disturbances of impulse control. The pathogenesis of this disorder is not yet elucidated. In recent years several studies have been published which indicate that serious neurobiological alterations exist in BPD. Volume reductions of frontal cortex areas and the limbic system have been described. In addition, abnormal cerebral activation patterns in response to emotional stimuli, disturbances of pain perception and HPA axis dysregulation have been found. In our studies we tried to detect possible structural changes in the region of the amygdala and hippocampus and to find out if they are correlated with neuropsychological and clinical symptoms in BPD.

Methods: 25 female patients which met DSM IV diagnosis of BPD and 25 matched controls were enrolled. SKID I und II interviews were performed. Volumetric analysis of gray and white matter was enabled by using 1.5 T magnetom vision and an especially designed software program (BRAINS, Andreasen et al., 1992). As „regions of interest“ amygdala and hippocampus were defined. To evaluate depressive symptomatology the Hamilton rating scale (HAMD, 21-items) and to measure impulsive und aggressive behavior well established instruments were applied, e.g. Brown-Goodwin Life History of Aggression questionnaire (BGLHA).

Results: Hippocampal volume was reduced in BPD patients. An inverse correlation between hippocampal volume and increased aggression/impulsivity (BGLHA) was found. Amygdala volume was increased in BPD patients with co-morbid major depression compared to those without. There exists a positive correlation between amygdala volume and depressive symptoms (HAMD). Correlations between Imaging data and neuropsychological findings in BPD will be presented.

Discussion: Our findings can indicate an increased biological vulnerability in BPD patients. On the other hand structural brain

changes could be the result of an ongoing disease process. In addition, other potential causal factors such as traumatic experiences must be taken into account.

S-26-04

Neuronal correlates of Cluster B personality disorders

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Objective: To investigate structural abnormalities and brain activation patterns to cognitive tasks of behavioural inhibition, reward and loss in patients with borderline personality disorders using functional and structural brain imaging.

Methods: 7 medication-free male patients with a DSM IV diagnosis of BPD and 8 healthy controls (matched for age and IQ) were included. Scanning was performed on a 1.5 T machine (40 axial slices, 3.5mm spacing, TR 5 sec.). Volunteers performed a Go/NoGo, reward and loss task. fMRI data were analysed using SPM2. Structural images were analysed using voxel based morphometry. A correlation analysis between impulsivity scores grey matter volumes was performed.

Results: Structural brain imaging results showed reduced grey matter volumes in prefrontal and temporal regions in the BPD group. Impulsivity scores correlated negatively with grey matter volumes in prefrontal and temporal areas in both, the patient and the control group. Brain activation to the impulse inhibition, reward and loss tasks should significantly different patterns in the BPD compared to the control group.

Conclusion: Our results confirm previously described prefrontal and temporal deficits in BPD. Specifically, we observed structural deficits in the orbitofrontal cortex an area related to impulse control and reward processing. The OFC might be important in the etiopathology of disorders related to impulse control and altered reinforcement processing. Brain activations to the Go/NoGo task showed enhanced activations in the patient group. This functional 'hyperfrontality' might be due to a compensatory mechanism to achieve normal performance despite structural brain deficits.

S-26-05

The neuropsychology and functional neuroimaging of personality traits and dimensions

C. van Heeringen, K. Bernagie, M. Vervae, I. Goethals, K. Audenaert. *University Hospital Gent, Dept, Gent, Belgium*

Objective: This presentation will focus on recent neuropsychological and functional neuroimaging findings in association with personality traits in patients showing impulsive behaviour, suicidal behaviour, and aggressive behaviour, and in healthy controls

Methods: 1. Neuropsychological tests: WCST, COWAT, ToL, TMT, STROOP 2. Functional neuroimaging using SPECT: rCBF and 5-HT_{2a} receptor binding 3. Personality traits: TCI

Results: The studies in different patient samples tend to show a number of clusters of characteristics, associated with particular psychopathological phenomena, e.g. - in suicidal patients: decreased 5HT_{2a} binding in dorsolateral prefrontal cortex, correlating with word fluency and harm avoidance scores - in impulsive patients: reduced orbitofrontal rCBF, negatively

correlating with self-directedness scores - in suicidal and aggressive individuals: negative correlation between impulsivity and rCBF in right lateral temporal regions

Conclusion: The study of personality using a combined neuropsychology - neuroimaging - trait approach in divergent patient samples may help to elucidate mechanisms underlying psychopathological characteristics, and thus guide the development of treatment and prevention strategies.

Monday, April 4, 2005

S-42. Symposium: Alexithymia - interaction with psychiatric and psychosomatic disorders

Chairperson(s): Hans Jürgen Grabe (Stralsund, Germany), Matti Joukamaa (Tampere, Finland)
16.15 - 17.45, Holiday Inn - Room 8

S-42-01

Alexithymia across the life span

M. Joukamaa. *Tampere School of Public Health, Tampere, Finland*

Objective: Several population studies on alexithymia with representative samples have been published in recent years. We studied the association of alexithymia and socio demographic factors by reviewing these studies.

Methods: A review of five published articles (three of them with working age people and two with elderly people) and of two unpublished manuscripts (one with a large age scale 30-90 years old people, one with 15-16 years aged young people).

Results: About one tenth of working age people is alexithymic, men more commonly than women. This holds also on teen age people. Alexithymia is associated with living alone, low education and unemployment. Among elderly people the prevalence of alexithymia is almost three times as high and there do not exist any gender difference. Among elderly also the association with other socio demographic factors seems to be weaker.

Conclusion: Alexithymia is associated with many socio demographic factors. This should be kept in mind when assessing the associations of different somatic diseases and mental disorders with alexithymia.

S-42-02

The role of alexithymia in the natural history of the functional gastrointestinal disorders

P. Porcelli. *IRCCS De Bellis Hospital Psychosomatic Unit, Castellana Grotte, Italy*

Objective: To investigate the role of alexithymia in the natural history of Functional Gastrointestinal Disorders (FGID).

Methods: Systematic review of literature.

Results: Pre-clinical stage of symptom perception: alexithymia was higher in FGID patients than patients with organic GI disease (IBD) and healthy subjects, even after controlling for moderator variables. Diagnostic stage of health care referral: alexithymia was higher in FGID patients with psychopathology referred to a GI setting than psychiatric outpatients with GI syndromes referred to a mental health care setting, even after controlling for psychiatric-