SES04.03

AUDITORY HALLUCINATIONS: MAPPING THE NEURAL NETWORK USING FUNCTIONAL MAGNETIC RESONANCE IMAGING

S.S. Shergill*, M.J. Brammer, S.C.R. Williams, R.M. Murray, P.K. McGuire. *Division of Psychological Medicine, Institute of Psychiatry, GKT School of Medicine, De Crespigny Park, London SE5 8AZ, UK*

Background: Perceptions of speech in the absence of an auditory stimulus (auditory verbal hallucinations; AVH), are a cardinal feature of schizophrenia. Functional neuroimaging provides a powerful means of measuring neural activity during AVH. However, the results from previous studies have been inconsistent. This may reflect a lack of statistical power and the confounding effects of patients actively signalling when hallucinations occur.

Design: We examined 6 patients with schizophrenia, who were experiencing frequent AVH, using a novel fMRI method which permitted the measurement of spontaneous neural activity without requiring subjects to signal when hallucinations occurred. Approximately 50 individual scans were acquired at unpredictable intervals in each subject while they were intermittently hallucinating. Immediately after each scan, subjects reported whether they had been hallucinating at that instant. Neural activity when patients were, and were not experiencing hallucinations was compared in each subject.

Results: AVH were associated with activation in the inferior frontal/insular, anterior cingulate and temporal cortex bilaterally (with greater responses on the right), the right thalamus and inferior colliculus, and the left hippocampus and parahippocampal cortex ($P < 0.0001$).

Conclusions: AVH are mediated by a distributed network of cortical and subcortical areas. Inconsistencies in the findings of previous studies may reflect their identification of different components of this network.

SES04.04

AUDITORY HALLUCINATIONS AND HEARING IMPAIRMENT

M. Musalek*, B. Hobel, A. Zpghlami, N. Benda, R. Eher, G. Fruhwirt, H. Krudl, A. Neumeister, J. Stössl, S. Zadro-Jaeger. *Department of Psychiatry, University of Vienna, Austria*

Considering the literature on the role of hearing impairment in the pathogenesis of delusions we are confronted with a wide range of opinions. Some authors reported that hearing impairment played a major role, others could not find any clear correlations between delusions and hearing impairment. The high variety of opinions which may be caused also by the different methodological approaches and problems (e.g. test case selection, definition of delusions and hearing impairment, inpatients - out-patients, measurement of hearing impairment, control group, etc.) was the staring point of our studies we carried out in consecutively selected patients admitted to the General Psychiatry Hospital in Vienna. All the 354 patients (184 females, 170 males) were examined by trained psychiatrists in order to detect delusions. Hearing abilities and impairements were recorded by the Social Hearing Handicap Index. 5 patients had to be excluded because of a lack of data, therefore 349 patients were included in the study. In order to investigate the connection between hearing impairment and delusions we compared the groups with delusions (92 patients) with the rest of examined patients without delusional symptomatology (257 patients). Statistical evaluation using Chi-Square test and Mann Whitney U-test showed that there are no statistical differences between deluded and non-deluded patients with respect to the occurrence and degree of hearing impairment. We therefore may conclude that hearing impairment may play a role in the pathogenesis of delusions in single cases but it is of minor importance in the pathogensis of delusions in general.

SES04.05

TREATMENT AND OUTCOME IN HALLUCINATORY STATES

S. Opjordsmoen*, N. Retterstöl. *Department of Psychiatry, Ullevaal University Hospital, Oslo, Norway*

In clinical practice hallucinations may occur in different modalities, but are most often auditory or visual. The majority of schizophrenics have hallucinations, either during psychotic episodes or continuously for years. Hallucinations can also occur in other functional psychoses, organic disorders and due to substance use. The neurocognitive basis for hallucinations is not fully understood, which makes treatment difficult.

Transient hallucinatory experiences may occur in subjects without a mental disorder, and in acute psychosis they may last for a short while. The challenge is patients with long-lasting hallucinations.

We have studied first-episode psychotic patients wit personal follow-up making an observation period of 22–39 (mean 30) years. At index admission 112 of 301 patients (37%) had hallucinations. Outcome as regards *hallucinations in the group recruited before the neuroleptic* era will be compared with the group treated with neuroleptics at first admission. Treatment with neuroleptics (conventional and novel) as well as other psychotropic drugs will be discussed.

SES05. AEP Section "Forensic Psychiatry": Psychiatric treatment in forensic secure units

Chairs: F.H.L. Beyaert (NL), P. Cosyns (B)

SES05.01

OPERATING A SECURE UNIT IS COOPERATING

H. van Marle

No abstract was available at the time of printing.

SES05.02

FORENSIC SECURITY MEASURES IN SWITZERLAND: FROM LAW TO INSTITUTIONS

G. Niveau. *Institut Universitaire de Médecine Légale Genèeve, Switzerland*

The switch Penal Law foresees three kinds of security measures for partly or totally irresponsible offenders. Nevertheless, because of the small size of the cantons of this federal state, the specific institutions for these patients had not been created. Consequently some institutions have needed to be adapted to this type of forensic situations.

Patients with medium degree of dangerous behavior are usually treated in general psychiatric hospitals, under a specific form of administration. But people presenting a high degree of danger for the public security are kept in prison. When they are in an acute

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mental disorder episode they can be hospitalized for a short time in a penitentiary psychiatric hospital.

Although Switzerland has never been criticized for this system by international organizations like the Committee for the Prevention of Torture and Inhuman or Degrading Treatment, we consider that the lack of specific institutions creates, in health and security standpoint, an unsatisfactory situation for these patients.

SES05.03
PSYCHOTHERAPY PROCESS RESEARCH IN THERAPIES WITH SEX OFFENDERS IN FORENSIC SECURE UNITS

F. Pfäfflin

No abstract was available at the time of printing.

SES05.04
FORENSIC CARE IN SWEDEN

F. Hagelbäck-Hansson

No abstract was available at the time of printing.

FC04. Anxiety disorders

Chairs: D. Lecic-Tosevski (YU), E. Libigerová (CZ)

FC04.01
RESPONSIVENESS OF CENTRAL SEROTONIN RECEPTORS IN PANIC DISORDER: EFFECTS OF CLOMIPRAMINE TREATMENT AND EXERCISE

A. Broocks[1]*, E. Rüther, U. Munzel, G. Hajak, D. Wedekind, B. Bandelow. *Dpt. of Psychiatry; [1]University of Lübeck; University of Göttingen, Germany*

Background: The study addresses the question whether antidepressant medication (clomipramine) or a nonpharmacological treatment (aerobic exercise) will modulate central serotonergic responsiveness in patients with panic disorder.

Design: 45 patients with panic disorder and/or agoraphobia were randomly allocated to a ten-week period of endurance training, clomipramine or placebo treatment. Before and after treatment, the psychobehavioral and neuroendocrine effects of orally-administered m-Chloro-phenylpiperazine (m-CPP; 0.4 mg/kg), ipsapirone (0.3 mg/kg) and placebo were examined.

Results: In comparison to the baseline challenges, the psychological responses to m-CPP and ipsapirone, as measured by the NIMH rating scales were significantly reduced both after exercise and clomipramine treatment. Neuroendocrine responses to m-CPP were also reduced in these two treatment groups; in contrast, administration of ipsapirone was associated with a trend towards increased cortisol secretion both after clomipramine and exercise treatment.

Conclusions: A ten-week protocol of aerobic exercise leads to similar changes in 5-HT2C and 5-HT1A receptor responsiveness as does pharmacological treatment with clomipramine in patients with panic disorder. These results are in agreement with a study in marathon runners, indicating that regular endurance exercise is associated with downregulation of central 5-HT2C receptors.

FC04.02
DEEP BRAIN STIMULATION FOR SEVERE REFRACTORY OBSESSIVE-COMPULSIVE DISORDER: A NEW LAST-RESORT THERAPEUTIC OPTION?

L. Gabriëls*, P. Cosyns, B. Nuttin. *University Hospital Antwerp, Department of Psychiatry, 10 Wilrijkstraat, B-2650 Edegem, Antwerpen, Belgium*

Patients with severe, medically intractable obsessive-compulsive disorder (OCD) may benefit from psychosurgery. Ethical considerations concentrate around the irreversibility of lesioning procedures, against the ethical obligation to present al appropriate options for treatment. In Parkinson's disease, deep brain stimulation (DBS) is accepted as more advantageous to creating permanent brain lesions.

Objective: To test the hypothesis that DBS can lead to a long-term improvement of OCD symptoms.

Method: A prospective crossover study was performed in 3 Belgian patients, with an initial six-month period where patients and evaluating psychiatrist are blinded for stimulation conditions, and a following six-month period where patients are continuously stimulated (CS). Psychiatrist-rated Yale-Brown Obsessive-Compulsive Scale (Y-BOCS-psy) prior to surgery, after a period of stimulation ON and OFF, and after CS, as well as weekly Y-BOCS self-rating scales (Y-BOCS-SRS) were completed.

Results: Patient 1: Y-BOCS-psy: 38/40 before surgery; 30/40 in ON; 35/40 in OFF; 31/40 after CS. Y-BOCS-SRS remained 40/40 throughout the whole protocol. Patient 2: Y-BOCS-psy: 33/40 before surgery; 20/40 in ON; 29/40 in OFF; 27/40 after CS. Mean Y-BOCS-SRS was 35/40 before surgery; 24.5/40 in ON; 28/40 in OFF; 21/40 after CS. Patient 3: Y-BOCS-psy: 30/40 before surgery; 18/40 in ON. Patient refused OFF after the symptom-relief in ON, but with empty batteries Y-BOCS-psy soared to 30/40. After CS Y-BOCS-psy was 16/40. Mean Y-BOCS-SRS: 28.8/40 before surgery; 20.4/40 in ON; not available in OFF; 15.8/40 after CS.

Conclusions: Further research is warranted, but treatment-refractory OCD patients may benefit from DBS, alleviating OCD symptoms without unwanted side effects.

FC04.03
MEDICAL UTILIZATION AND COSTS IN PANIC DISORDER

G. Megale*, A. Lo Balbo, C. Collazo. *Department of Investigation, Instituto de Postgrado del Cono Sur, Pueyrredón 1625, Ciudad de Buenos Aires (1118), Argentina*

Background: There is a high prevalence of panic disorder in medical patients, as well as an association between panic disorder and high rates of utilisation of medical services and excessive medical costs incurred from extensive medical workups. Palpitations, shortness of breath, chest pain, faintness and dizziness are the most frequent symptoms reported by these patients at the emergency units and other hospital services. Screening instruments for panic disorder are underused in primary care settings; so unnecessary medical tests are performed for those complaints. Panic disorder imposes a significant burden on those with the illness and that it is a seriously under diagnosed condition in primary care practice.

Design: A total of 38 cases of panic disorder who contacted an out-patient clinic, were assessed by an experienced interviewer. The assessment instruments included the Structured Clinical Interview for DSM-IV and a retrospective scale to determine panic characteristics, medical-mental health service use and costs involved. They were compared with a random sample of patients without panic disorder.

Results: People with panic disorder had significantly higher utilisation rates and incurred substantially higher costs ($p < .01$),

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