S17. Brain imaging in neuropsychiatric disease

Chairs: M. Gaviria (USA), C. Arango (E)

S17.01
FUNCTIONAL NEUROIMAGING OF COGNITION: A CHALLENGE TO NEUROPSYCHOLOGY

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Neuropsychology surged as a response to clinician's needs for an accessible tool that allows the assessment and rehabilitation of brain dysfunction. At the beginning, neuropsychologists and cognitive neuroscientists used traditional methods, especially standardized tests, but in the recent years, the design of cognitive paradigms have evolved in order to integrate them with more complex technologies, such as functional neuroimaging techniques, in the study of the working brain. Functional magnetic resonance imaging (fMRI) and positron emission tomography (PET), are used to visualize brain functioning when subjects perform specific cognitive tasks or are exposed to specific stimuli. In this paper we will discuss how brain imaging and cognitive sciences have become part of a multidisciplinary team that take advantage of recent innovations in separate fields like computing sciences and parametric statistics to reach a better understanding of psychopathology and frequent neuropsychiatric conditions.

S17.02
STRUCTURAL FINDINGS IN NEUROPSYCHIATRIC DISORDERS: THE ROLE OF STRESS

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Stress-induced changes in the glucocorticoid system may be toxic for hippocampal cells in animals. Chronic stress is associated with some neuropsychiatric disorders, including schizophrenia, major depression, posttraumatic stress disorder and bipolar disorder. These disorders are different in their clinical presentation and underlying pathophysiology, but a reduced hippocampal volume has been reported in all of them. It has been proposed that the hippocampal volume reduction in these neuropsychiatric disorders may be mediated via stress-induced glucocorticoid neurotoxicity. We will compare the existing data with our observations that support the thesis that some neurostructural findings may be secondary to the disease and not viceversa. Results of a current study in which we are measuring hippocampal volume and cortisol levels in patients with schizophrenia will be presented in this speak.

S17.03
FUNCTIONAL IMAGING IN NEURODEVELOPMENTAL DISORDERS

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Recent advances have led to the realisation, that many childhood onset disorders are likely due to abnormalities in brain development and brain maturation. Tourette's Syndrome (TS) is an excellent example of a childhood onset neuropsychiatric disorder; hence we set out to study the brain activity associated with premonitory urge in patients with TS by means of functional MRI. We obtained five 7 millimetre coronal slices perpendicular to the AC-PC line, on a 1.5 T MRI using a spiral gradient echo technique. Subject were cued to blink at 50% of their resting baseline blink rate during the "urge" condition and at 200% during "no urge" condition, respectively. Standard subtraction technique was used to compare two conditions, "urge" vs. "no urge". We report data from six general population controls and six patients with TS. Five of 6 control subject showed activation of left dorsolateral prefrontal cortex (DLPC) and only one of the 6 TS subjects showed this activation. Unlike controls, all 6 TS subject activated the left medio-orbital cortex (MOFC). These findings are consistent with the view that DLPC inhibitory function is impaired in TS patients and MOFC has been recruited to inhibit the urge to blink. Further work is necessary to replicate these results and to explore the effect of co-morbid conditions, primarily

S17.04
INSULAR CORTEX ABNORMALITIES IN SCHIZOPHRENIA: CLINICAL CORRELATES AND SIGNIFICANCE

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The insular cortex is a limbic integration region that is engaged in emotional and cognitive functions. To investigate possible insular cortex abnormalities in schizophrenia, we measured insular gray matter volume and cortical surface size in drug naive first episode patients. Magnetic resonance images were used to explore the morphology of the insular cortex of 25 healthy male volunteers, and 25 male schizophrenic patients. Groups were matched for age, sex, height, and parental socioeconomic status. Clinical dimension scores were correlated with insular gray matter volume and cortical surface area.

Patients had a significant reduction in cortical surface area (patients = 2020 (206); controls = 2142 (204); $F = 5.83$, $df = 1.47$; $p = .01$) and gray matter volume (patients = 8.12 (0.77); controls = 8.57 (0.94); $F = 3.93$, $df = 1.47$; $p = .05$) in the left insular cortex. Insular gray matter volume and cortical surface size correlated negatively and significantly with the psychotic symptom dimension. Schizophrenic patients show morphological abnormalities in the insular cortex at early stages of the illness. These abnormalities are related to the severity of psychotic symptoms in schizophrenia. Further investigations are needed to evaluate the role of the insula in the pathophysiology of schizophrenia

S18. Psychiatry and human rights. Involuntary commitment in Europe

Chairs: L. Singer (F), B. Lachaux (F)

S18.01
INVOLUNTARY, COMPULSORY OR COERCED TREATMENT: NEW TRENDS IN BELGIUM

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Since 1990 involuntary civil commitment in psychiatric units is in Belgium no longer an administrative decision but a judicial one involving the justice of the peace.

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We will discuss the follow up of this law on the psychiatric practice. Proposals to improve the law on the treatment of mentally disordered offenders have been made at the request of the ministry of justice. We will focus on the availability of adequate mental health care and the problem of negotiating consent in judicial coerced treatment.

For some categories of patients, such as drug addicted patients or sexual abusers, we witness in Belgium a clear trend for the judicial system to engage patients to commit themselves to psychiatric treatment. Legal intervention in this area is necessary, but should be closely monitored and used with great caution. Social control is not the primary concern of psychiatrists, and any treatment must (also) be beneficial to the individual patient.

S18.02
HUMAN RIGHTS AND COMPULSIVE TREATMENT

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According to the Madrid Declaration, art. 4, the psychiatrist should consult with the family and, when appropriate, seek legal counsel in order to safeguard the human dignity and the legal rights of the patient when he/she is incapacitated and/or unable to exercise proper judgement due to mental disorder. As psychiatrists we have to stride for a therapeutic relationship based upon mutual trust and provide treatment with the patient's consent.

And yet all psychiatrists are faced with situations where compulsive interventions are required to safeguard the patient and/or those surrounding him/her.

Ways to protect the human rights of the patients and avoid any abuse of psychiatry will be discussed.

S18.03
PSYCHIATRY AND HUMAN RIGHTS IN ROMANIA. INVOLUNTARY COMMITMENT. 30 YEARS EXPERIENCE

N. Tataru. *Neuropsychiatric Hospital Oradea, Romania*

The protection of Human Rights and the dignity of persons with mental disorders have a short history in our country like throughout the world. Generally our country's legislation respects the International Documents of WHO, UN, etc., concerning the protection of mentally ill.

This legislation warrants an adequate treatment through provisions regarding the fundamental human rights and especially of persons with mental disorders.

Standards and practice in our country regarding the involuntary committment in a psychiatric department need to be improved (Criminal Code 114 for forensic psychiatry, Decree 313 for dangerous patients before committing any offence).

Juridical and social status and role, generally speaking, do not limit individual fights of persons with mental disorders only if they have no mental capacity, when the tutelage and trusteeship must be set up.

There is no discrimination of persons with mental disorders legally speaking, but they are rejected by the society. After 1990, because of currency problems very few of our patients are employed.

Although the law makes provision for defending the mentally ill against any abuse, humiliation treatment and/or freedom privation, after 1990 it was necessary that to be found commissions to research abuses in involuntary commitment. On the other hand, before 1990 we have to mntion several cases with or without mental disorders that were hospitalised in psychiatric departments to protect them against freedom privation.

The quality of standards must be improved, especially those concerning elementary care needs and quality of life (accommodation, food, sheltered homes, sheltered work plces and community involvement.

S18.04
INVOLUNTARY COMMITMENT IN GERMANY – ETHICS, LAW AND PRACTICE

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Historically, involuntary commitment of incompetent patients in Germany followed for a long time well-established paternalistic rules that took into consideration the "best interest" of the patient, but also the financial well-being of the family and the potential risk for others. Since the early 1980s major law changes took place. Federal laws that had not changed for over 100 years were twice changed since 1990 emphasizing autonomy and protections of patients' rights. State laws were reformed successively from 1980 to 1995.

Two general principles govern involuntary commitment of mentally ill. Individual welfare, benefit and putative will of the patient are the principles of federal commitment laws. They can not be applied for the protection of others. The principle of dangerousness is the basis for commitment according to state laws, which are derived from police laws. All laws involving psychiatry in Germany function according to a two step procedure: first a mental disorder – as defined in the law – has to be diagnosed, secondly the legal consequences of that illness, e.g. incompetence, dangerousness, have to be proven. Although the definitions introduced in the law reforms of the last 20 years are supposed to limit the possibilities for the state or for others to interfere with the individual rights of the patients and to allow as much autonomy as possible, the number of patients committed to psychiatric institutions have not decreased and in some regions even increases have been observed. Several reasons might explain these observations: 1. The number of demented patients increase. These patients were formerly hospitalized without any formal legal procedure and are now committed legally. 2. The extend of social control remains fairly constant regardless of the legal procedures that are involved in that control. 3. Public awareness of the risk of some psychiatric patients sensitizes politicians and judges to public fears and leads to more vigorous attempts to preventively control and protect applying the already existing laws that allow preventive detention.

S18.05
UNVOLUNTARY COMMITMENT IN FRANCE: A MODEL OR AN EXCEPTION?

B. Lachaux. *CH St. Jean de Dieu, Lyon, France*

Using France as an example, ethical and legal aspects will be analysed. Is the position of forced treatment an exception or a model to be followed? The author will try to demonstrate that psychiatry is not only a speciality but also a discipline, and that it throws light on the consequences of illness on the relationship between the patient and the people who treat him in the field of medecine as a whole.

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