SES11.3
Is prediction of psychosis in the general population feasible?

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Background: The objective of this study is to study the likelihood that a person from the general population with psychotic-like symptoms will develop a psychotic disorder with a need for treatment.

Method: 7075 subjects in the general population were interviewed with the Composite International Diagnostic Interview in 1996 (T0), 1997 (T1) and 1999 (T2). The CIDI has 6 categories for every psychotic symptom rating. Clinicians performed at T2 a re-interview, yielding a diagnosis of psychosis based on need for treatment. Incident psychotic symptoms at T1 were analysed for predictive value for psychosis (PP) at T2.

Results: The PP's of the psychotic symptoms were low for prediction purposes (range 0.00–15.79%). A combination of psychotic symptoms increased the predictive power in a dose-response fashion (PP 1, 2, 3 and 4 symptoms, respectively: 3.33; 16.67; 20.00; 50.00).

Conclusions: The modest predictive values of the psychotic symptoms indicate their limited value for screening in the general population. The increased predictive power of a combination of psychotic symptoms shows that psychosis prevention strategies in high-risk groups may be feasible, but at the expense of sensitivity.

SES11.4
Findings from the AESOP Study

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No abstract was available at the time of printing.

SES11.5
The development of psychosis in the Edinburgh High Risk Study

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Our ongoing study of initially well adolescents with at least two schizophrenic relatives started in 1994. 162 high risk subjects have thus far provided some data: approximately one-third have had isolated psychotic symptoms, some of which have resolved, and 13 have developed schizophrenia to date.

Those with psychotic symptoms in the first five years, as compared to those without, had larger brains at baseline; exhibited declines in IQ, memory and executive function as well as reductions in temporal lobe volumes over two years; had more dermatoglyphic abnormalities, behavioural disturbance aged 13–16, recent illicit drug use and major life stressors, and schizotypal features. No such differences were however found in genetic liability, obstetric complications, minor physical anomalies, abnormal behaviour in childhood or neurological soft signs.

Preliminary analyses in those who have developed schizophrenia suggest that more severe behavioural abnormalities and schizotypal features may predict the onset of schizophrenia. Overall, the results suggest that some high risk people who develop schizophrenia are developmentally abnormal, many develop transient psychotic symptoms and some develop acute schizophrenia in the context of drug abuse and stress.

SES12. AEP Section Child Psychiatry – Pediatric psychopharmacolgy: problems and prospects

Chairs: D. Bailly (F), A. Barbosa (P)

SES12.1
Finding from psycho-pharmaco-epidemiological studies: implications and critical questions

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Regularly, media reports indicate that the public has became increasingly concerned about the apparent dramatic rise in the use of psychotropic medications in children and adolecents. There are, in fact, few data about the rate of medication treatment among the pediatric population. In France, epidemiological studies indicate that about 12 to 18 % of children and adolescents received psychotropic drugs, whatever their age may be. Among secodary schoool students, about 10% of boys and 20% of girls use psychotropic drugs, mainly anxiolytics and hypnotic, during at least one month in the school year. Above all these studies show that psychotropic medications are usually prescribed without appropriate clinical assessment and without evaluation of their effectiveness and side effects. Many questions certainly remain about pharmacokinetics and pharmacodynamics of psychotropic medications in the pediatric population. However, these data also suggest the need for better education of physicians, mental health professionals and parents about the use of these treatments in children and adolescents.

SES12.2
Empirical guidelines for the use of antidepressants in childhood depressive disorders

D. Purper-Ouakil. *France*

No abstract was available at the time of printing.

SES12.3
Selective serotonin re-uptake inhibitor discontinuation syndrome in children and adolescents

L. Tamam. *Turkey*

No abstract was available at the time of printing.

SES12.4
New strategies in ADHD treatment

M.P. Bouvard. *France*

No abstract was available at the time of printing.

SES12.5
Atypical antipsychotic drugs in childhood onset schizophrenia

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Childhood-onset schizophrenia (with onset of psychosis by age 12) is a rare but severe form of the disorder which clinically and neurobiologically is seen as a continium with the adult-onset disorder.

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Very early onset schizophrenic patients only partially benefit from conventional antipsychotic treatment and are at increased risk for developing neuroleptic- induced extrapyramidal symptoms and tardive dyskinesia (CAMPBELL ET al, 1999). Over the past decade novel atypical antipychotic drugs where introduced. These agents are associated with better efficacy in the treatment of positive and negative symptoms and less extrapyramidal symptoms. (TOREN ET al, 1998). Since 1990 , 48 childhood onset schizophrenic patient have been hospitalized in the children's department of the Ness- Ziona Mental Health Center. 14 patients were treated with Risperdal, 18 with Olanzapine and 25 with Clozapine. (Clearly some children were treated with more than one drug). Prior to the treatment with atypical antipsychotics, most patients were treated with conventional anti-psychotic drugs. In this lecture we will review the current literature and present the outcomes and side effects of the verious drug treatments.

S48. Membrane abnormalities and psychiatric disorders

Chairs: L. Bjerkenstedt (S), J. Assies (NL)

S48.1

Aberrant tyrosine transport across the cell membrane in schizophrenia

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Schizophrenia is a complex disease involving changes in different biological systems. Any hypothesis of the disease must explain biological disturbances causing both peripheral and brain changes. In our research we have obtained results which have demonstrated an altered tyrosine transport across the cell membrane. These findings have led to the hypothesis of aberrant membrane function as a major cause to schizophrenia.

In vitro studies of tyrosine transport across the fibroblast membrane have shown decreased influx of tyrosine as well as increased affinity. However, the L-system functioned normally. That the in vitro findings have a physiological relevance is confirmed in PET-studies showing an aberrant tyrosine transport across the blood-brain barrier in vivo in patients with schizophrenia. The background of the transport changes was not related to clinical variables. However, since the aberrant tyrosine transport was transmitted through several cell generations of cultured fibroblasts a genetic background is plausible.

In conclusion Tyrosine transport is aberrant in schizophrenia probably reflecting a genetic trait, which may involve membrane function, like energy processes and transport proteins.

S48.2

Fatty acid composition of membranes in psychiatric patients

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Fatty acids (FAs) modulate energy balance and regulate important membrane functions as electrical signalling, receptor sensitivity, and neurotransmitter release. Perturbations of PUFAs are involved in the pathophysiology of neurodevelopmental and degenerative disorders. We found significantly reduced eicosapentaenoic and docosahexaenoic acid concentrations in erythrocyte membranes of 19 schizophrenic patients.

Twelve of our 19 patients showed comorbid cannabis abuse. Cannabis-using patients had significant increases in the n-3 and n-9 series and also in the saturated fatty acids. However, the changes induced by cannabis could not explain the schizophrenia associated FA depletions.

Peroxisome proliferator-activated receptors (PPARs) are activated by a variety of FAs, their cyclooxygenase and lipooxygenase metabolites, and (neuro)steroids like dehydroepiandrosterone(DHEA) and oestrogens.

PUFAs are also ligands for retinoid X receptors (RXRs), which interact as heterodimeric partners with the PPARs and with nuclear related receptors that regulate the expression of multiple schizophrenia candidate genes like dopamine-, serotonin-and glutamate receptors, choline acetyltransferase and phospholipase A2.

Hormones are involved in all stages of fatty acid metabolism.

In conclusion, the membrane composition is useful as a biological phenotypic expression of (psychiatric) diseases.

S48.3

Increased lipid peroxidation in schizophrenia; a marker of membrane breakdown?

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The hypothesis that reactive oxygen species (ROS) play an important role in schizophrenia as well as neurodegenerative disorders remains speculative and there have been no detailed studies to test this hypothesis. ROS including superoxide, hydroxyl radical, hydrogen peroxide, singlet oxygen and nitric oxide can cause cellular injury when they are generated excessively or the enzymatic and non enzymatic antioxidant defense systems are impaired. Endogenous antioxidants provide important defence mechanisms that allow organism to cope with the daily challenges of oxidative stress. A number of oxygenated compounds, particularly aldehydes including malondialdehyde (MDA), are produced during the attack of free radicals against membrane lipoproteins and polyunsaturated fatty acids. Increased lipid peroxidation, demonstrated by measuring thiobarbituric acid reactant substances (TBARS) or MDA concentrations in plasma, serum, and erythrocytes, has been proved in several clinical situations. Our studies and the others provide evidence that the increased production of ROS through catecholamine metabolism, neuroleptic treatment, activation of oxidant enzymes, inactivation of antioxidant enzymes, or the other mechanisms might be one of the mechanisms that can lead to decreased phospholipid amount in the membranes and increased TBARS level in both plasma and red blood cell from patients with schizophrenia.

S48.4

Phospholipid metabolism and schizophrenia: new clinical trials

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Evidence that phospholipid metabolism is abnormal in schizophrenia includes: reduced levels of n-3 and n-6 fatty acids in cell membranes from erythrocytes and brain of schizophrenic patients; increased levels of calcium independent phospholipase A2 in blood and brain; increased levels of phosphodiesters in brain according to 31P magnetic resonance spectroscopy; reduced skin flush to topical niacin; and abnormal electroretinogram. The possibility of treating schizophrenia with n-3 fatty acids was suggested by studies

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