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Does computerized cognitive remediation change brain activation patterns in schizophrenia: fMRI pilot data

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Background: Attention, working memory (WM), information processing and memory deficits are important features of schizophrenia. WM functions appear to be mediated by the dorsolateral prefrontal cortex (DLPFC). Functional imaging studies have shown a failure to activate the DLPFC during working memory tasks in patients with chronic schizophrenia. The primary aim of this study is to determine whether there are brain activation changes in the dorso-lateral prefrontal cortex (DLPFC) as a result of engaging in a randomized, controlled 12 week course of cognitive remediation therapy (CRT) in inpatients with chronic schizophrenia.

Methods: Patients with DSM IV schizophrenia are randomized to a 12 week trial of Cognitive Remediation (CR) using a Computerized CR program (COGPACK) or to a 12-week control condition. Patients receive at baseline and endpoint an fMRI scan with a cognitive task (N-back task), a neuropsychological test battery (MATRICS), functional and symptom assessments.

Results: Preliminary results of this ongoing study show that patients after 12 weeks of CR showed (1) significantly more improvement in WM functions than patients who participated in the control group and (2) improvement in accuracy on the verbal letter 2-back task during the fMRI scan. Signal difference between 2-back and 0-back was not present or only present minimally at baseline (Pre-CR); however, at endpoint (Post-CR) there was signal difference present, which corresponds to an increase in activation in the areas of the DLPFC. This increase in activation pattern may be reflective of the effects of the exposure to the CR intervention.

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Assessment of body fat % in patients treated with sertindole or olanzapine

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Background: Treatment with antipsychotic agents may result in changes in body composition. Highly accurate measurement techniques are expensive and may be associated with safety concerns, e.g. radiation exposure. Cheaper alternatives are available, but their accuracy in the patient population of interest has been investigated little.

Objective: To compare two methods for estimating body fat % (%BF) in patients treated with atypical antipsychotics.

Methods: Data on %BF measured at baseline and 1 month in six patients participating in a randomized trial of olanzapine and sertindole were collected. Eight-electrode bio-electrical impedance (BIA8) and dual energy x-ray absorptiometry (DEXA) equipments were used to measure %BF.

Results: At baseline, the mean %BFBIA8 was 26% compared to 35% for DEXA, indicating a large underestimation by BIA8. After one month, the means were unchanged, although individual patients changed between +1.7 to -1.5%BFBIA, and +1.5 to -1.3%BFDEXA. The assessed median change at one month was similar for the two methods, with an increase of 0.3%BFBIA compared to 0.2%BFDEXA. The median between methods difference was 0%BF (range -3.0 to +1.3).

Conclusion: Large discrepancies in absolute levels of %BF were seen between the two measurement methods. The discrepancies were, however, constant over time. Therefore the change estimates were almost identical. Judging from this small sample, it appears as assessment of change in body composition may be estimated using the cheaper and faster BIA method, although the absolute values may be large underestimates. Caution in the interpretation must be exercised due to the small sample and small magnitude of change.

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Immune parameters and aminotransferase blood serum level in dynamics of atypical neuroleptics treatment of schizophrenic patients

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Objective: The features of atypical neuroleptics influence on immune parameters and aspartate and alanine aminotransferases blood serum level of schizophrenics during 6-week therapy.

Methods: We examined 52 schizophrenics: 20 patients were treated by quetiapine, 12 - by olanzapine, 10 - by rispolept, 10 - by amisulpride. Scales PANSS and CGI was used at clinical examination. We defined the parameters of cellular, humoral immunity, serum levels of aminotransferases. Control group – 36 healthy people.

Results: The data of favorable influence on positive, negative, general psychopathological symptoms of patients was observed.

Before therapy T-cell immunodeficiency with reduction of CD2+-, CD4+-, CD16+-cells was observed among schizophrenics (comparing to control). Authentically high aminotransferases levels in first point were observed in groups of patients treated by olanzapine and quetiapine.

During 6 weeks of quetiapine treatment indices of aHLA-DR+-cells quantity, CD16+-cells, IgA, IC level tend to those of control indices, the normalization of aminotransferases levels was observed.

During olanzapine treatment the normalization of CD2+-, CD8+-cells was observed; we determined the increase of IgA and IgM in the process of normalization of IgG and IC level. Aminotransferases levels reduced up to control indices.

During rispolept treatment the normalization of lymphocytes, CD4+-, CD16+-cells, was observed; during amisulpride treatment the reduction of CD2+-, aHLA-DR+-lymphocytes the increase of IC level, the normalization of CD16+-cells quantity and the increase of aminotransferases levels was revealed.

Summary: Was observed priority data about render various effects on immune parameters of atypical neuroleptics; dynamics of aminotransferases level which depends on their initial level is revealed.

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Genious study: The use of ziprasidone for the treatment of patients with schizophrenia

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GENIOUS, a non-interventional under standard practice study examined and evaluated the efficacy and safety of ziprasidone in 963 schizophrenia patients from 43 Greek centers.

Ziprasidone was administered orally (p.o.) and/or intramuscularly (i.m.). The oral doses ranged from 40 to 320 mg per day and in the majority of patients were between 80 and 160 mg. The efficacy of ziprasidone was measured using selected parts of the Positive and Negative Syndrome Scale (PANSS), the Calgary Depression Scale (CDSS) and the Clinical Global Impression-Improvement Scale (CGI-I). The evaluation of safety was carried out by measuring the mean change in weight from baseline until end of treatment and by recording all other adverse events.

A mean improvement of 5.8 points was observed in the positive subscale of PANSS (95% CI = -6.10 to -5.43). In the negative subscale, 53.3% of the patients showed improvement in blunted affect, 58.8% in poor rapport, and 59.4% in difficulty in abstract thinking. A significant improvement was also observed in CDSS (-1.4 points, 95% CI = -1.5 to -1.2) with 40.3% of the patients showing remission of depression. Overall, a responder rate of 85.3% was observed for the CGI scale. Discontinuation of treatment due to adverse events was recorded in only 5.7% of the patients. However, only 4.2% were attributed to ziprasidone. No weight gain was observed.

The administration of ziprasidone constitutes a safe and effective therapeutic choice for the treatment of the positive and negative symptoms in Greek patients with schizophrenia.

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Negative symptoms precede the onset of first episode psychosis in a prospective general population sample of adolescents

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Background and Aims: There are lacking prospective studies in general population of adolescents about symptoms predicting the onset of first episode psychosis.

Methods: Members (N= 9,215) of the Northern Finland 1986 Birth Cohort, an unselected general population cohort, were invited to participate in a field survey during 2001, at ages of 15-16 years. The study included a 21-item PROD-screen questionnaire screening prodromal symptoms for psychosis for last six months (Heinimaa et al. 2003). PROD-screen included nine questions for positive and five questions for negative features. The Finnish Hospital Discharge Register was used to find out new cases of hospital treated mental disorders during 2002-2005.

Results: Of the subjects 17 (0.3%) were treated due to first episode psychosis and 95 (1.5%) due to non-psychotic disorder during the follow-up period. Positive symptoms did not associate with the onset of psychosis, but negative symptoms did. 94% of subjects who got psychosis reported negative symptoms. Respective figure for those who were treated for non-psychotic disorder was 48%, and for those 'healthy' without psychiatric hospital treatment 46% (Fisher's exact test: psychosis vs. healthy $p<0.001$, psychosis vs. non-psychosis $p<0.001$, and non-psychosis vs. healthy $p=0.61$).

Conclusions: This study may be the only one exploring prospectively in general population features predicting onset of first episode psychosis. The findings emphasize the importance of negative symptoms in the development of neuropsychiatric disorder of first episode psychosis (Weinberger 1995).

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EEG abnormalities and three year outcome in first episode psychosis

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Objectives: This study assesses the relationship of EEG to several aspects of 3 year symptomatic and functional outcome in first episode psychosis.

Method: One hundred and seventeen patients with first episode psychosis had their baseline EEG classified by modified Mayo Clinic criteria as normal, essentially normal or dysrhythmia. Sociodemographic variables, duration of illness and of untreated psychosis and premorbid adjustment were also recorded. Positive and negative symptoms of psychoses, depression, anxiety and global functioning were rated on entry and after three years of treatment.

Results: Patients with a dysrhythmic EEG at entry into treatment showed significantly greater persistence in both positive and negative symptoms of psychoses as well as anxiety and depression over three years. These findings were independent of duration of untreated illness or premorbid adjustment.

Conclusion: An abnormal baseline EEG in patients with first episode psychosis is associated with a poorer symptomatic outcome at three year follow-up.

Keywords: first episode psychosis, EEG, outcome, schizophrenia, DUP

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Psychotic disorder in a 60-year-old woman diagnosed with uterine cervical cancer: A case report

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We report a case of psychotic disorder in a 60-year-old woman diagnosed with uterine cervical cancer who suddenly refused to continue local cobaltotherapy and was twice admitted to a psychiatric hospital