EW558

Glycine transporter inhibitor sarcosine changes neuronal and glial parameters in the left dorsolateral prefrontal cortex and glutamatergic parameters in the left hippocampus in stable schizophrenia

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Introduction Sarcosine - glycine transporter inhibitor - increases glycine concentration around NMDA (N-methyl-D-aspartate) receptors. Function of the glutamatergic system in the prefrontal cortex and hippocampus is impaired in schizophrenia, which may lead to negative and cognitive symptomatology.
Aims We evaluated the influence of sarcosine therapy on the concentration of metabolites (NAA, N-acetylaspartate; Glx, complex of glutamate, glutamine and γ-aminobutyric acid (GABA); mI, myo-inositol; Cr, creatine; Cho, choline) in the left dorso-lateral prefrontal cortex (DLPFC) and left hippocampus in patients with stable schizophrenia.
Methods Fifty patients with schizophrenia, treated with constant antipsychotics doses, in stable clinical condition were randomly assigned (25 patients in each group) to administration of sarcosine (2 g) or placebo for six months. ^{1}H-NMR spectroscopy (1.5 T) in both localisations and clinical evaluation (PANSS) was performed before and after sarcosine addition.
Results Initially we noted no differences in metabolite concentrations between groups. In the left DLPFC, NAA/Cho, mI/Cr and mI/Cho ratios were significantly higher in the sarcosine than the placebo group after six months. In the sarcosine group, NAA/Cr, NAA/Cho, mI/Cr, mI/Cho ratios also increased compared to baseline values. In the placebo group, only the NAA/Cr ratio increased. In the left hippocampus Glx/Cr and Glx/Cho decreased in sarcosine group at the end of our study.
Conclusions The addition of sarcosine to antipsychotic therapy for six months caused increase of neurons viability (NAA) and neurogilal activity (mI) markers in the left DLPFC and decrease of hyperglutamatergic overstimulation parameters in the left hippocampus with simultaneous improvement of clinical parameters including negative symptoms.
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EW559

Selected metabolites of kynurenine pathway and response to antipsychotic treatment in schizophrenia

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Introduction Deficit of glutamatergic transmission and aberrant function of kynurenine pathway, with disturbed synthesis of glutamate receptors antagonist, kynurenic acid (KYNA) and neurotoxic metabolite of kynurenine, 3-hydroxykynurenine (3-OH-KYN) have been implicated in the pathogenesis of schizophrenia.
Objectives Demonstrated by others higher level of KYNA in the brain may cause relative deficiency of glutamate-mediate transmission with resulting behavioural and cognitive changes.
Aims Search for predictors of satisfactory response to antipsychotic treatment based on the analysis of KYNA and 3-OH-KYN serum levels.
Methods Fifty-three patients with chronic schizophrenia and 46 healthy individuals were enrolled in the study. Quantitative analyses of KYNA and 3-OH-KYN were performed using high-pressure liquid chromatography (HPLC) and electrochemical detection, respectively. Clinical assessments (PANSS, SANS, SAPS) and blood analyses were conducted at 3 time-points: during the active phase of disease, after 4 weeks of modified pharmacotherapy, and after reaching remission.
Results In schizophrenia group, lower levels of KYNA ($P = 0.002$) and non-altered levels of 3-OH-KYN ($p = 0.195$), as compared to control, were detected during active phase of disease. Despite clinical improvement, no significant changes in the level of studied metabolites were observed later on. The initial level of 3-OH-KYN correlated negatively ($r = -0.368$; Spearman's rank) with clinical improvement (negative symptoms) ($P < 0.05$).
Conclusions 1. The peripheral dysregulation of kynurenine pathway metabolites in chronic schizophrenia manifests as relative increase in the ratio between neurotoxic 3-OH-KYN and neuroprotective KYNA. 2. The higher serum level of 3-OH-KYN during relapse of schizophrenia seems to predict poor response to antipsychotic treatment.
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EW566

Odors hedonic judgment in patients with schizophrenia. Influence of negative symptoms and β-endorphin levels

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Introduction The relationship between olfactory and emotional processing is an area of increasing interest in schizophrenia research.
Objectives Olfactory identification deficits are well described in schizophrenia while the results for pleasantness ratings remain unclear.
Aims Evaluation of odor identification and hedonic judgment related to severity of negative symptoms and β-endorphin concentration.
Methods Fifty outpatients with schizophrenia were included in the study: 25 with negative symptoms (PN) and 25 without pre-

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dominant negative symptoms (P). They were compared with 23 healthy individuals. In all study groups University of Pennsylvania Smell Identification Test (UPSIT) and odor hedonic evaluation were performed. Clinical symptoms severity was evaluated using PANSS. Plasma concentrations of β-endorphin were assayed in all participants.
Results PN made more odor identification errors than controls ($P = 0.000$) and P sample ($P = 0.001$). Hedonic judgments of unpleasant odors were significantly more pleasant in PN sample than in P ($P = 0.03$) and controls ($P = 0.041$). PN had significantly higher concentration of β-endorphin than P sample ($P = 0.014$) and controls ($P = 0.009$). No relationship between β-endorphin concentration and odors identification and odor hedonic judgment was found in both patient samples and controls.
Conclusions Increased level of β-endorphin is related to predominance of negative symptoms but probably it is not involved in olfactory identification performance and hedonic judgment in schizophrenia. Patients with predominant negative symptoms revealed different pattern of pleasantness rating – they experience unpleasant odors as more pleasant. Alterations in smell identification and hedonic judgment could be differentially expressed in some subtypes of schizophrenia.
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EW569

Neurophysiological correlates of negative symptom domains in patients with schizophrenia

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Introduction Negative symptoms have long been recognized as a central feature of schizophrenia, which limit recovery, having a strong negative impact on real-life functioning. External validators of the negative symptoms domains might help refining hypotheses on their pathophysiological basis.
Aims The objective of this study was to evaluate, in the context of the multicenter study of the Italian Network for Research on Psychoses, the relationships between auditory event-related potentials (ERPs) components and negative symptom domains in patients with schizophrenia (SCZ).
Methods We examined ERPs recorded during an auditory oddball task in 115 chronic stabilized SCZ (78% on second-generation antipsychotics) and 62 matched healthy controls (HC). Negative symptoms were assessed using the Brief Negative Symptom Scale.
Results Our main findings included significant N100 and P3b amplitude reductions in SCZ compared to HC. P3b amplitude did not correlate with any negative symptom domain, while N100 amplitude correlated with both anhedonia and avolition domains.
Conclusions Avolition and anhedonia, often clustering in the same factor, are related to abnormalities of early components of the ERPs correlated with perceptual and automatic attention processes. None of the negative symptom domains is associated with abnormalities of the later stages indexed by P3 amplitude.
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EW570

Self-Stigma and adherence to medication in patients with psychotic disorders – cross-sectional study

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Introduction Adherence to treatment of mental disorders is one of the key factors influencing its success and, secondarily, the patients' quality of life and social adaptation.
Aims The cross-sectional study of 90 outpatients diagnosed with psychotic disorders aimed at determining if there was a relationship between discontinuation of medication in the past, current adherence to treatment and self-stigma.
Methods The assessment was made with the objective and subjective Clinical Global Impression – Severity scale, Drug Attitude Inventory, Internalized Stigma of Mental Illness (ISMI) scale and demographic data.
Results The questionnaires were filled out by 79 patients, of whom 5 handed in incomplete questionnaires. Complete sets of data were obtained from 74 patients. The data analysis showed that the levels of self-stigma as assessed by the total ISMI scores was not statistically significantly correlated with most of the demographic factors (age, age of illness onset, gender, education, marital status, employment, duration of the illness, number of hospitalizations and antipsychotic dosage). However, there was a significant negative correlation with current adherence to treatment.
Conclusions Adherence to treatment is one of the most important prerequisites for successful therapy. Adherence may be enhanced through better motivation and education of patients on the necessity of adhering to treatment recommendations and the consequences of non-adherent behavior. Important factors in adherence also seem to be patients' stigmatization and self-stigma. Adherence may be increased by promising self-stigma-reducing strategies performed by systematic psychoeducation of patients or as a part of psychotherapeutic counseling.
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EW571

Healthcare resource use of paliperidone palmitate 3-month injection vs. paliperidone palmitate 1-month injection: An analysis of phase III clinical trial hospital data

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Introduction PSY-3011 was a randomized, multicenter, double-blind, non-inferiority study of paliperidone palmitate 3-month injection (PP3M) vs. paliperidone palmitate 1-month injection (PP1M). Adults with schizophrenia were stabilized on PP1M in an open-label (OL) 17-week transition phase. Qualifying subjects at the end of the OL phase were then randomized to PP3M or PP1M in the 48-week double-blind (DB) phase. Healthcare resource utilization (HCRU) between PP3M and PP1M was compared using the HCRU questionnaire during the double-blind (DB) phase.