tration of benzodiazepines or anticholinergic drugs does not seem to be advisable in cases of akathisia, given the potential side effects of these medications.

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FC65

Antipsychotic-induced tardive dyskinesia: The role of glutamatergic system

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Tardive dyskinesia (TD) occurs in 20–25% of patients with long-term antipsychotic therapy. Abnormalities in glutamatergic transmission are considered one of the key components of the pathogenesis of drug-induced side effects. Glutamate acts as excitotoxin under certain conditions and in excessive concentrations.
Aim is to study the concentration of glutamate and analysis of single nucleotide polymorphisms (SNP) in genes coding the glutamate transporter and NMDA-receptors in schizophrenic patients with TD and without it.
The study group included 156 patients with schizophrenia receiving long-term antipsychotic treatment. Patients were divided into two groups: 63 patients with TD and 93 patients without it. Glutamate was determined in serum by spectrophotometric method. Determination of allelic variants of gene SLC1A2 (rs4354668) and GRIN2A (rs2650427, rs1969060) was performed by polymerase chain reaction in real-time.
We found a significant ($P < 0.05$) increase of the concentration of glutamate in patients with TD. Significant ($P < 0.05$) reduction in frequency of genotype GG of GRIN2A (rs1969060) and TT of SLC1A2 (rs4354668) were found in patients with TD in comparison to group without TD. In the study of glutamate concentration depending on the genotype GRIN2A (rs1969060) and genotype SLC1A2 (rs4354668) we observed a statistically significant change: elevated levels of glutamic acid identified with the heterozygous genotype in patients.
It is possible to suggest that reduction in frequency of these genotypes increases the risk of movement disorders due to the protective effect of these genotypes.

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FC66

Cognitive function in female patients with schizophrenia and metabolic syndrome

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Introduction The metabolic syndrome (MetS) and cognitive impairments, both related with poor outcomes in schizophrenia, are common in patients with this disorder. MetS has been associated with cognitive impairments in schizophrenia, but there is no general consensus regarding the description of various domains of neurocognition in patients with schizophrenia related to MetS.

Objectives The goal of this study was to assess cognitive functions in female patients with schizophrenia complicated by metabolic syndrome compared to those with schizophrenia without metabolic syndrome.

Methods Fifty-four female patients diagnosed with schizophrenia were divided into two groups: MetS group (MetS+) and non-MetS group (MetS−). Cognitive functioning were investigated using the Brief Assessment of Cognition in Schizophrenia (BACS).

Results Twenty-seven (52%) patients with schizophrenia met criteria for the MetS diagnosis. Mean age of patients was 40.80. Patients from MetS+ group performed significantly worse on verbal memory ($P = 0.005$), executive functions ($P = 0.028$) and motor speed ($P = 0.035$) as compared to MetS− group. Patients with schizophrenia who were hypertensive showed cognitive impairments in 2 domains of cognition: attention and speed of information processing ($P = 0.004$) and verbal fluency ($P = 0.001$). Patients with hypertriglyceridemia performed significantly worse on verbal memory ($P = 0.005$). Motor speed was associated with waist circumference ($P = 0.02$).

Conclusions At a mean age of 40 years old, female patients with schizophrenia and metabolic syndrome show difficulties in more domains of cognitive function compared to female patients with schizophrenia without metabolic syndrome. Our findings suggest a link between cognition and metabolic syndrome in female patients with schizophrenia.

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FC67

Comparing cognitive functions in medication adherent and non-adherent patients with schizophrenia

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Background Medication non-adherence presents a considerable problem in patients with schizophrenia. Cognitive and executive functions can affect adherence. The association between medication non-adherence and cognitive impairment in schizophrenia is under investigated with limited and conflicting research data.

Purpose of the study To prospectively assess the rate of drug adherence among a sample of patients with schizophrenia and to compare the cognitive and executive functions between adherent and non-adherent patients.

Subjects and methods One hundred and nine patients with schizophrenia diagnosed according to the DSM-IV classification were initially assessed by the Wechsler Adult Intelligence Scale (WAIS), Wechsler Memory Scale-Revised (WMS-R) and Wisconsin Card Sorting Test (WCST) and six months later by the Brief Adherence Rating Scale (BARS).

Results Among the patients, 68.8% were non-adherent to their antipsychotic medication. Adherent patients (31.2%) had significantly higher mean scores for the total, verbal and performance IQ. Moreover, they had significantly higher mean scores in most of WMS subtests (orientation, information, verbal paired association, digit span, visual memory span), and higher mean scores for; total correct, conceptual level response, percentage and categories completed on the WSCT subscales ($P < 0.0001$). Whereas the non-adherent group had higher mean scores in; trials administered, total errors, perseverative responses, and perseverative errors ($P < 0.0001$). In a step regression analysis, digit span, conceptualization, total and percentage of errors were putative predictors of non-adherence to antipsychotic medications.

Conclusion Cognitive deficits, especially verbal memory and executive functions were the strongest patients' related factors associated with non-adherence to medication. Psychiatrists should

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consider possible cognitive factors influencing adherence to enable offering proper interventions.
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FC68

Peripheral sub-inflammation is associated with antidepressant consumption in schizophrenia. Results from the multi-center FACE-SZ dataset

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Objectives The relation between C-reactive protein (CRP), depression and antidepressant consumption has been well explored in major depressive disorders but not in schizophrenia, which has a high rate of depression comorbidity. The objectives of this study were:
– to determine the prevalence of abnormal CRP levels, depression and antidepressant consumption in a multi-center community-dwelling sample of subjects with schizophrenia;
– to determine the association between abnormal CRP levels, depression and antidepressant consumption in schizophrenia.
Method Two hundred and nineteen stable patients with schizophrenia (mean age = 31.6 years, 75.3% male gender) were systematically included in the multicentre network of FondaMental Expert Center for schizophrenia (FACE-SZ) and assessed with Calgary Depression Scale for depression. High sensitivity CRP (hs-CRP) was measured with an assay using nephelometry (Dade Behring). Abnormal CRP level was defined by levels > 3 mg/L. Current medication was recorded.
Results Overall, 63 subjects (28.8%) were found to have abnormal CRP levels, 43 (20.1%) received a diagnosis of comorbid current depression, and 51 (31.9%) had ongoing antidepressant treatment. In univariate analysis, abnormal CRP levels were found to be significantly associated with metabolic syndrome ($P = 0.0011$) and with antidepressant consumption ($P = 0.01$), while depression, psychotic symptomatology, age of onset, illness duration, sociodemographic characteristics, current tobacco or cannabis status were not (all $P > 0.05$).
In a multivariate model, abnormal CRP was highly associated with antidepressant consumption independently of other confounding variables (adjusted odd ratio = 2.9, 95% confidence interval 1.2–6.8).
Conclusion Abnormal CRP levels in schizophrenia were found to be associated with antidepressant consumption, but not with depression.
Disclosure of interest The authors have not supplied their declaration of competing interest.

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FC69

Birth by cesarean section and schizophrenia. Results from the multi-center FACE-SZ dataset

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Objectives Children born by cesarean section ("c-birth") are known to have different microbiota and a natural history of different disorders including allergy, asthma and overweight compared to vaginally born ("v-birth") children. C-birth is not known to increase the risk of schizophrenia (SZ), but to be associated with an earlier age at onset. To further explore possible links between c-birth and SZ, we compared clinical and biological characteristics of c-born SZ patients compared to v-born ones.
Method Four hundred and fifty-four stable community-dwelling SZ patients (mean age = 32.4 years, 75.8% male gender) were systematically included in the multicentre network of FondaMental Expert Center for schizophrenia (FACE-SZ).
Results Overall, 49 patients (10.8%) were c-born. These patients had a mean age at schizophrenia onset of 21.9 ± 6.7 years, a mean duration of illness of 10.5 ± 8.7 years and a mean PANSS total score of 70.9 ± 18.7. None of these variables was significantly associated with c-birth. Multivariate analysis showed that c-birth remained associated with lower peripheral inflammation (aOR = 0.07; 95% CI 0.009–0.555, $P = 0.012$) and lower premorbid ability (aOR = 0.945; 95% CI 0.898–0.994, $P = 0.03$) independently of age, age at illness onset, sex, education level, psychotic and mood symptomatology, antipsychotic treatment, tobacco consumption, birth weight and mothers suffering from schizophrenia or bipolar disorder.
Conclusion Altogether, literature data as well as our results suggest that c-birth is associated with lower weight gain and lower inflammation in schizophrenia, which could be explained by microbiota differences. Further studies should take into account c-birth when exploring the role of microbiota in SZ patients.
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FC70

Abnormal connectivity in dorsolateral prefrontal cortex in schizophrenia patients and unaffected relatives

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Objectives The aim of this study is to explore connectivity of the left dorsolateral prefrontal cortex (LDLPC) by functional magnetic resonance imaging during resting state, in subjects affected by schizophrenia and unaffected relatives.
Methods We recruited a group of 29 patients diagnosed with schizophrenia, who were treated with atypical antipsychotics, who are and were clinically stable in the last 6 months and had an illness duration range from 5 up to 15 years. We also recruited a group of 23 unaffected relatives, without history of other mental, neurological or somatic disease and a group of 37 healthy volunteers. No subject in any of the three groups met criteria for substance use disorders.
All three groups were clinically evaluated, and a functional magnetic resonance during Resting State was performed.
Functional images were reoriented to the first scan, normalized to the MNI EPI template and smoothed with an 8 mm Gaussian kernel, with SPM. The CONN-FMRI Toolbox v1.2 was used to create individ-