

Methods A graph theoretical approach was used to analyse the connectivity in networks centered on:

- Broca's area;
- Wernicke's area.

Connectivity information was acquired using diffusion tensor imaging (DTI).

Results Compared to healthy controls, adolescents with schizophrenia displayed a lower average degree of connectivity with the left inferior frontal gyrus (Broca's area). No significant differences were found in the degree of connectivity with the right inferior frontal gyrus and the superior temporal gyrus bilaterally (Wernicke's area).

Conclusions The results suggest a link between schizophrenia and impairment to areas where CDs associated with inner speech plausibly originate.

Disclosure of interest The authors have not supplied their declaration of competing interest.

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S03

GRIN2B mediates susceptibility to affective problems in children and adolescents

M. Nobile

Child Psychopathology Unit, Scientific Institute, IRCCS Eugenio Medea, Bosisio Parini, Lecco, Italy

Objectives Association studies have implicated the N-methyl-D-aspartate receptor 2B subunit gene (*GRIN2B*) as candidate for different brain illnesses, also including both internalizing and externalizing disorders. Here, we explored the association between selected SNPs of *GRIN2B* (rs5796555-/A; rs1012586C/G; rs2268119A/T; rs2216128A/G; rs11609779C/T; rs2192973G/A) and attention problems in children and adolescents as assessed by CBCL 6/18 (Achenbach and Rescorla, 2001).

Methods In a large cohort of 320 Italian nuclear families selected from an ongoing comprehensive project on child and adolescent psychopathology performed at two sites of our Institutes (BP and UD), we performed a family-based association study to determine whether the *GRIN2B* gene influence and/or mediates susceptibility to attention problems through time. Genetic association was investigated by the quantitative transmission disequilibrium test (QTDT, version 2.5.1; Abecasis et al., 2000). Quantitative traits were analyzed using the '-wega' and the '-ao' options. Empirical *P*-values were computed from 10,000 Monte-Carlo permutations, and the significance levels were adjusted by the false discovery rate method (Storey, 2002) applied to the tests performed for each marker (i.e., 8 phenotypes) at two different point times. Latent profile analysis was performed to assess the effect of gene on different trajectories over time. The effect of environmental determinants was also evaluated.

Results Evidence for significant association of *GRIN2B*-rs5796555-/A was found with attention problems both at first and second evaluation. Latent profile analysis suggested significant association with specific trajectories and specific environmental factors.

Conclusions These results provide preliminary evidence of an association between the *GRIN2B* polymorphism and continuity of attention problems throughout adolescence within an Italian population of referred children and adolescents, suggesting that the *GRIN2B* genes could play a role in susceptibility to attention problems during developmental age.

Disclosure of interest The author has not supplied his declaration of competing interest.

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Biological markers of short-term and long-term treatment outcome in mental disorders

S04

Brain glutamate levels and antipsychotic response in schizophrenia

A. Egerton

Department of Psychosis Studies, Institute of Psychiatry, Psychology and Neuroscience, King's College London, London, United Kingdom

There is considerable interest in identifying biomarkers of antipsychotic response in schizophrenia. Glutamate is one key candidate. The development of brain imaging techniques for measuring brain glutamate levels has allowed this hypothesis to be tested directly in patients. This talk will present our ongoing research examining the relationship between brain glutamate levels and antipsychotic response in first-episode psychosis and in treatment-resistant schizophrenia. I will summarise our results from both our completed and ongoing studies, to consider whether glutamate imaging might be useful in the future to identify patients who would benefit from non-dopaminergic antipsychotic drugs and inform novel, glutamate-based, treatment strategies.

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S05

Biochemical and genetic markers in patients with alcohol dependence and affective disorders and their correlation with alcohol intake

U. Preuss^{1,*}, F. Wurst²

¹ *Martin-Luther University, Halle-Wittenberg, Department of Psychiatry, Psychotherapy and Psychosomatics, Germany*

² *Paracelsus University Salzburg, Psychiatry, Salzburg, Austria*

* *Corresponding author.*

Rates of comorbid affective disorders in alcohol-dependent individuals are significant. Biomarkers of alcohol use may support the diagnosis of high and frequent alcohol use in these individuals. The aim of these analyses of the WHO-ISBRA Study on State and Trait Markers of Alcohol Use and Dependence is to compare biomarkers of alcohol use across individuals with and without comorbid alcohol dependence and affective disorders. Significantly, higher values of these biomarkers are hypothesized in individuals with comorbid disorders compared to alcohol dependence only. Assessment of Alcohol dependence and comorbid depression and bipolar disorders were conducted using an adapted version of the Alcohol Use Disorder and Associated Disabilities Interview Schedule (AUDADIS). Altogether, *n* = 1863 individuals were included into the analyses, of whom *n* = 299 had a lifetime history of depression and *n* = 20 a bipolar disorder. Clinical characteristics like mean alcohol intake last month and biomarkers including ASAT, GGT, CDT, 5-HTOL/5-HIAA ratio and MAO-Activity were included into the analyses. Results indicate that AD only subjects had higher measures of all biomarkers compared to comorbid bipolar and depression subjects, while the latter had a higher alcohol intake during last month.

Since this is a cross-sectional study, conducted in emergency rooms of several countries, this allegedly divergent result in alcohol intake in comorbid subjects compared to higher biomarkers in AD only subjects may indicate that drinking is more frequent in alcohol-dependent individuals while bipolar and depressed subjects may have more episodic pattern of alcohol intake. The latter may lead to shorter periods of intake compared to the chronic and frequent