

## **7th European Conference on Schizophrenia Research – Schizophrenia and other psychotic disorders: Time for precision medicine?**

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**P-04-006****Neurocognitive impairment with schizophrenic patients at different stages of the disease in case with and without long-term treatment**

J. Mukhitova (Pavlov First SPbGMU, Clinical psychology), Saint-Petersburg, Russia; E. Isaeva, I. Shoshina, I. Tregubenko, J. Simon

**Objective:** The research of visual dysfunction and cognitive impairment in schizophrenia seems relevant in diagnosis and prognosis of the disease, the possibility of determining the visual perception dysfunctions as a biomarker for schizophrenia.

**Methods:** The study included 68 patients with a diagnosis of schizophrenia in the age from 19 till 64, the average age was  $34 \pm 12$  years. It was used psychophysiological method of visocontrastometry, method of assessing the noise-immunity system and psychological methods for memory, attention and thinking process.

**Results:** In patients in the first episode the growth rate of memorization of words ( $p < 0.05$ ), attention switching and information processing speed ( $p < 0.05$ ) are significantly higher than in chronic patients. Patients with schizophrenia with the first psychotic episode cope worse with the release of the figure from the background ( $p < 0.05$ ) what associated with a decrease in contrast sensitivity in the range of low spatial frequencies, to which the magnocellular system is specific. For patients with chronic disease have uneven reproduction in retrieval and decreasing the level of generalization in thinking process ( $p < 0.05$ ). “Distortion of the generalization process” is stable in different stages of schizophrenia. Patients with the first episode of schizophrenia without long-term pharmacotherapy reproduced more words, has higher number of false reproduction, higher speed of implementation, high amount of distortion and higher count of recognized images, lower coefficient of rigidity than patients with the first episode who received the treatment.

**Conclusion:** (1) Patients in the first episode have higher rates of memorization of words, flexibility of information and speed of information processing, lower rates of isolation of the figure from the background. The distortion of the process of generalizations is consistently, whereas a decrease the level of generalization. (2) Patients with the first episode of schizophrenia without long-term pharmacotherapy demonstrate greater efficiency of memory, higher speed of information processing, mobility of nervous processes, higher flexibility and distribution of attention compared with patients with taking long-term treatment.

**Policy of full disclosure:** None.

**P-04-007****Verbal abstract reasoning in average-onset and late-onset schizophrenic patients: Pilot-study**

E. Abdullina (Moscow State University, Neuro- and Pathopsychology), Moscow, Russia; Y. Panikratova, G. Rupchev, M. Savina, V. Sheshenin, D. Tikhonov, V. Kaleda

**Objective:** Numerous studies have revealed impairment of verbal abstract reasoning (VAR) in average-age onset schizophrenia (AOS). However, in late-onset schizophrenia (LOS) it remains understudied. Thus, we compared VAR in LOS, AOS, and controls.

**Methods:** 10 patients with AOS ( $M = 41.5 \pm 9.8$ ; 10 males) and 11 age-comparable controls ( $M = 43.5 \pm 10.6$ ; 7 males), 11 patients with LOS ( $M = 67.5 \pm 10.7$ ; 11 females) and 11 age-comparable controls ( $M = 65 \pm 8$ ; 8 females) underwent “Similarities” subtest of Wechsler Adult Intelligence Scale. Duration of illness in clinical groups was comparable (LOS:  $M = 17 \pm 11.7$ ; AOS:  $M = 17.9 \pm 8.7$ ). The Mann-Whitney U test was used to determine

differences between groups. Bonferroni correction for multiple comparisons was applied ( $p < 0.05/3$ , i.e.  $p < 0.016$ ). Additionally, we evaluated the number of bizarre answers per group.

**Results:** AOS group performed significantly worse compared to controls ( $U = 17.5$ ,  $p = 0.006$ ). No significant differences were found between AOS and LOS ( $U = 46.5$ ,  $p = 0.6$ ) as well as between LOS and controls ( $U = 39$ ,  $p = 0.17$ ). Performance efficacy decreased from younger controls ( $M = 19.6 \pm 2.8$ ) to older controls ( $M = 17.7 \pm 2.9$ ), then to LOS ( $M = 15.8 \pm 2.4$ ), performance of AOS was the poorest ( $M = 14 \pm 5.1$ ). Due to the lack of sex-comparability in clinical groups we checked for associations between sex and “Similarities” performance and revealed no significant correlations ( $rS = -0.21$ ,  $p = 0.89$ ). There were 6 bizarre answers in AOS, 1 in LOS, and 1 in older controls.

**Conclusion:** The presence of differences between AOS and controls along with the absence of differences between LOS and controls might indicate that VAR is more preserved in LOS compared to AOS. Although no significant differences between clinical groups were revealed, LOS performed slightly better. Moreover, the higher number of bizarre answers in AOS than in LOS may represent qualitative differences in VAR between clinical groups.

**Policy of full disclosure:** The study was supported by RFBR Grant no 18-013-01214.

**P-04-008****Long-term changes in semantic encoding strategy among first-episode psychosis patients**

C. Bärthel Flaaten (NORMENT/OUS Mental Health and Addiction), Oslo, Norway; I. Melle, C. Simonsen, T. Bjella, M. J. Engen, B. Haatveit, A. Vaskinn, T. Ueland

**Objective:** Studies have shown that schizophrenia spectrum patients utilize less semantic clustering during encoding of organized material, leading to poorer learning and retention (e.g. Vaskinn et al. 2008). The ability to self-initiate semantic clustering is a potential target for cognitive remediation (Lepage and Guimond 2019). The present study investigated long-term changes in use of semantic clustering in first-episode psychosis (FEP) patients and healthy controls, and associations with functional outcome.

**Methods:** Cognitive and clinical assessments were done on a group of 55 FEP patients and 85 matched controls at baseline and at 10-year follow-up. Data collection is ongoing. Diagnoses were made using SCID-I for the DSM-IV. California verbal learning test (CVLT) semantic clustering scores from baseline and follow-up assessments were compared. Correlations between semantic clustering and functioning (GAF-F) were also calculated at baseline and 10-year follow-up.

**Results:** Patients had lower semantic clustering scores compared to controls at both time points. Repeated-measures ANOVA showed a significant effect of group,  $F(1, 138) = 15.46$ ,  $p < 0.001$ , as well as a time,  $F(1, 138) = 22.83$ ,  $p < 0.001$ , on CVLT semantic clustering scores. A group\*time interaction was also found:  $F(1, 138) = 4.84$ ,  $p = 0.029$ . Further, semantic clustering at follow-up, but not baseline, was significantly correlated with GAF-F scores:  $r = 2.97$ ,  $p = 0.015$ .

**Conclusion:** These preliminary analyses found the expected reduction in semantic clustering among FEP patients. Additionally, there was a significantly larger increase in use of semantic clustering in controls compared to FEP-patients from baseline to 10-year follow-up. Although the direction of the effect cannot be assumed, a small correlation between semantic clustering and measures of functioning at follow-up support the notion that this measure is clinically relevant.

**Policy of full disclosure:** None.