factor-2 (FGF2) a trophic factors widely distributed in the adult brain, activates CREB and regulates cell proliferation via phosphorylation of CREB. FGF2 is involved in regulating synaptic plasticity. Improve memory increase endogenous FGF2, suggesting that increases in FGF2 activity may be the underlying mechanism of action for memory enhancement. FGF2 expression can be modulated by psychoactive drugs. There is evidence that also NGF mediates multiple biological phenomena. Synapsin plays an important role in synaptic transmission and neural development. So it plays an important role in hippocampally based behaviors.

Haloperidol is a classical antipsychotic drug while olanzapine is an atypical antipsychotic drug commonly used for the treatment of schizophrenia and other psychoses. Atypical antipsychotics, such as olanzapine and risperidone, exert less selective activity on various neurotransmitter receptors. Sertindole is an antipsychotic drug with a unique pharmacological profile. Clozapine is the reference drug for atypical antipsychotics.

Mice were treated chronically with haloperidol (0.125 and 0.25 mg/kg, n=10), olanzapine (1 and 2 mg/kg, n=9–10), clozapine (1.25 and 2.5 mg/kg, n=8–10), risperidone (0.25 and 0.50 mg/kg, n=9–10), sertindole (1.3 and 2.5 mg/kg, n=8–10) for 15 days. Since the genes involved in neurite remodeling are among the primary targets of regulation, the effects of chronic administration of drugs on FGF2, synapsin and NGF levels in the hippocampus of mice were determined using quantitative real-time polymerase chain reaction (RT-PCR).

Our results suggest that administration of the conventional antipsychotic haloperidol and atypical antipsychotic clozapine, olanzapine, risperidone and sertindole increased the expression of FGF2, synapsin and NGF and in the mice hippocampus. Thus chronic administration of clozapine olanzapine, risperidone and sertindole may promote neuroplasticity via the up-regulation of neutrophic factors.

**PM452**

Gender-specific associations of the brain-derived neurotrophic factor Val66Met polymorphism with neurocognitive and clinical features in schizophrenia

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**Abstract**

**Objective:** To explore associations of the brain-derived neurotrophic factor (BDNF) Val66Met polymorphism with cognitive functioning and psychopathology in patients with schizophrenia.

**Methods:** We included 133 subjects (71 females [53.4%] and 62 males [46.6%]) meeting the DSM-IV criteria for schizophrenia who were in the post-acute stage of the disease. BDNF Val66Met genotypes were identified via polymerase chain reaction. The computerized neurocognitive function battery, Positive and Negative Syndrome Scale (PANSS), Calgary Depression Scale for Schizophrenia (CDSS), Social and Occupational Functioning Scale (SOFAS), and the Subjective Well-Being Under Neuroleptic Treatment (SWN-K) were administered. Gender-stratified sub-analysis was also conducted to identify gender-specific patterns in the findings.

**Results:** In male patients, no significant difference in any measure by BDNF genotype was evident. In female patients, scores on the CDSS (p-value = 0.045) and total PANSS (p-value < 0.001) and all subscales were significantly higher in Val carriers. In addition, scores on the SOFAS (p-value = 0.008) and SWN-K (p-value = 0.025) were significantly lower in Val carriers. In terms of neurocognitive measures, female patients with the Val allele had significantly poorer reaction times (p-value = 0.004) and fewer correct responses (p-value = 0.001) on the Continuous Performance Test (CPT) and the Trail Making Test (parts A and B) (p-value = 0.048 and 0.033, respectively). After adjustment of PANSS total scores and log-transformed CDSS scores, CPT outcomes were significantly poorer in female patients with than in those without the Val allele (p-value = 0.015 and 0.018, respectively).

**Conclusion:** Gender-specific associations of the Val allele with poor neurocognitive function and more severe psychopathology were evident. Further studies are required to explore the mechanisms of these differences and the potential utility of the BDNF genotype as a predictor of outcome in patients with schizophrenia.

**PM453**

Association between CSF1R gene polymorphism and the risk of schizophrenia in Korean population

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**Abstract**

**Introduction:** There is considerable evidence to support the involvement of inflammatory and immunological processes in the pathogenesis of schizophrenia. The presence of cytokine...