

## **Dopamine and serotonin receptor imaging in drug-naïve schizophrenic patients treated with a new antipsychotic drug**

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### **Abstract**

Positive and negative symptoms in schizophrenia may be related to hyperactivity of the dopaminergic system in the mesolimbic regions and hypoactivity of the dopaminergic system in the cortical cortex, respectively. Serotonin–dopamine antagonist (SDA) binds to dopamine D2 receptor and serotonin 5-HT2 receptor, and treatment with SDA improves both symptoms. The aims of the present study was to determine D2 dopamine and 5-HT2 serotonin receptors occupancy with a novel SDA, perospirone in ten schizophrenic patients using positron emission tomography and [<sup>11</sup>C] N-methyl-spiperone. Positive and negative symptoms in all patients were improved after treatment with SDA. The mean D2 dopamine and 5-HT2 serotonin receptors occupancy was 22% and 24%, respectively. Both occupancies were correlated with plasma drug concentrations. The present study demonstrated that perospirone improves positive and negative symptoms in schizophrenic patients with lower occupancy for D2 dopamine and 5-HT2 serotonin receptors.