

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

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## **Abstract**

Neurotransmitter receptors may be involved in a number of neuropsychiatric disease states. D2 dopamine receptor in the striatum and 5-HT<sub>2</sub> serotonin receptor in the frontal cortex were imaged in normal volunteers and drug-naïve schizophrenic patients by means of [<sup>11</sup>C] NMSP. The drug-naïve schizophrenic patients showed no noticeable difference in D2 dopamine and 5-HT<sub>2</sub> serotonin receptors [<sup>11</sup>C] NMSP binding compared to normal volunteers. It has been suggested that a combined blockade of 5-HT<sub>2</sub> serotonin and D2 dopamine receptors may be superior to D2 dopamine alone in the treatment of schizophrenia. Perospirone, which has a high affinity for 5-HT<sub>2</sub> serotonin and D2 dopamine receptors in vitro, is a new atypical antipsychotic recently introduced for the treatment of schizophrenia. [<sup>11</sup>C] NMSP were used to determine D2 dopamine and 5-HT<sub>2</sub> serotonin receptors occupancy in two drug-naïve schizophrenic patients. D2 dopamine and 5-HT<sub>2</sub> serotonin receptors occupancy calculated in the perospirone treated patients was 10-40% and 20-40%.