

Pharmacogenetics of Adverse Events in Schizophrenia Treatment: Comparison Study of Ziprasidone, Olanzapine and Perazine

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The primary aim of the present study was to assess the possible associations between dopaminergic, serotonergic, and glutamatergic system-related genes and adverse events after antipsychotic treatment in paranoid schizophrenia patients. The second aim of the study was to compare the intensity of these symptoms between atypical (ziprasidone and olanzapine) and typical (perazine) antipsychotic drugs. Methods: One hundred ninety-one Polish patients suffering from paranoid schizophrenia were genotyped for polymorphisms of DRD2, DAT1, COMT, MAOA, SERT, 5HT2A, and GRIK3. The patients were randomized to treatment with perazine, olanzapine or ziprasidone monotherapy for 3 months. The intensity of side effects (changes in body weights and extrapyramidal symptoms) was measured at baseline and after 12 weeks of antipsychotic treatment. Results: After 3 months of therapy, the weight increase was the greatest in the group treated with olanzapine and the least in the group treated with ziprasidone. None of the examined gene polymorphisms was associated with the body weight changes. Perazine treatment was associated with the significantly highest intensity of extrapyramidal symptoms. None of the examined polymorphisms was associated with the changes in extrapyramidal adverse events after antipsychotic treatment. Conclusion: The selected polymorphisms are not primarily involved in changes in body weights and extrapyramidal symptoms related to antipsychotic treatment in paranoid schizophrenia patients.