

Effect of cigarette smoking on treatment of schizophrenia with olanzapine

Zoric K, Zivkovic N, Djokic G.

Clinic for psychiatric diseases “Dr Laza Lazarevic”, Belgrade, Serbia

- Introduction:** Co-morbidity of schizophrenia and cigarette smoking is a well-known phenomenon. Patients with schizophrenia have elevated rates of cigarette smoking (78-88%), and great difficulty in smoking cessation. Cigarette smoking may reduce plasma levels of antipsychotics up to 50%.
- Methods:** This clinical study included 127 patients (57.4% males, 42.6% females) with schizophrenia, aged 18-51, divided into four groups. Control group (39 patients) and experimental groups: group E1, 1-20 cigarettes/24h (34 patients), group E2, 21-40 cigarettes/24h (28 patients) and group E3, more than 40 cigarettes/24h (26 patients). Patients were observed for 12 months. All patients were assessed by Positive and Negative Symptom Schedule Scale (PANSS) at baseline, after 6 and after 12 months.
- Results:** No significant differences were found among groups for PANSS score at baseline ($p=0.515$). PANSS score reduction at study endpoint is statistically significant in all four groups ($p<0.001$). Rate of PANSS score reduction is highest in non-smokers group 63.5%, and lowest in E3 group (40+ cigarettes/24h) 40.8%. There is a statistically significant difference in PANSS score reduction between group of non-smokers and all three smokers groups ($p<0.001$). There is a statistically significant difference in PANSS score reduction between E1 and E2, and E1 and E3 group ($p<0.001$). There was no difference in PANSS score between group E2 and group E3 ($p=0.384$). There is a statistically significant difference in olanzapine average daily dose between group of non-smokers and all three smokers groups ($p<0.001$). There is a statistically significant difference in olanzapine average daily dose between E1 and E2 ($p=0.053$), and E1 and E3 group ($p<0.001$). There was no statistically significant difference in olanzapine average daily dose between group E2 and group E3 ($p=0.179$).
- Conclusion:** Olanzapine therapy is most efficient in non-smokers group with statistically significant PANSS score reduction. Smoking more than 20 cigarettes per day significantly reduces effects of olanzapine therapy in schizophrenia. Average daily dose of olanzapine is significantly lower in non-smokers group.

