

Metabolic derangement in schizophrenia : Relation to antipsychotic treatment

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The first aim of this study was to find out the risk for metabolic disturbances among a group of drug naive schizophrenics .The second aim was to compare the metabolic effects of first, second generation and combined first and second generation antipsychotics.

The study included 122 Egyptian schizophrenic patients recruited from the Institute of Psychiatry, Ain Shams University, Cairo , Egypt .They were divided into four groups [36 patients on first generation antipsychotics (gp 1), 40 patients on atypical antipsychotics (gp 2), 16 patients on combined typical and atypical antipsychotics(gp 3), 30 neuroleptic naive patients(gp 4)]. Thirty healthy subjects matching age, sex and BMI was the control group (gp 5). Anthropometric measures, fasting glucose, insulin and adiponectin, total cholesterol, TG, HDL , LDL and insulin resistance index (HOMA IR) and quantitative insulin sensitivity check index (QUICKI) were evaluated.

The prevalence of insulin resistance and atherogenic lipid profile are higher among gp 4 (86.7% and 60%, respectively) compared to gp 5 (0% and 6.7%, respectively, p value <0.01).

Patients in gp 3 show the highest prevalence of insulin resistance (100%, p value <0.01) and atherogenic lipid profile (87.5%, p value <0.01). Fasting insulin is highest among gp 2 (41.78 + or-23.46 ?IU/ml, p value <0.01) and there is a positive significant correlation between fasting serum insulin level and the duration of the treatment among patients of gp 2 ($r=0.38$, p value <0.05). There is a significant negative correlation between QUICKI and duration of treatment ($r= -0.276$, p value <0.05)among patients on atypical antipsychotics (gp2 + gp3). Fasting adiponectin has a highly significant lower level among gp 1,2,3 and 4 compared to gp 5 (p value<0.01) , gp 2 show the lowest level (1.73+ or-0.58ng/ml). There is a highly significant negative correlation between BMI and fasting serum adiponectin levels($r=0.48$, p value <0.01) among gp 2 patients. Schizophrenia puts the patient at a higher risk for insulin resistance even prior to antipsychotic treatment. Combined typical and atypical antipsychotic treatment showed the highest prevalence of insulin resistance and atherogenic lipid profile. Insulin resistance increases with increasing the duration of antipsychotic treatment among patients on atypical antipsychotics.