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OXIDATIVE STRESS MARKERS IN PATIENTS TREATED WITH TYPICAL AND ATYPICAL ANTIPSYCHOTICS

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Introduction: Studies performed in schizophrenia patients have generally suggested the presence of a compromised antioxidant system, but this is not always consistent with specific observed parameters, which on the whole, show evidences of dysregulation. There are also controversies regarding the oxidative stress status in patients treated with typical vs. atypical antipsychotics.

Aim: In this context, the aim of the present work was to evaluate the specific activity of some peripheral antioxidant defences like superoxide dismutase (SOD) and glutathione peroxidase (GPX) and the level of a lipid peroxidation maker (malondialdehyde-MDA), in schizophrenic patients treated with typical (haloperidol) or atypical (olanzapine, quetiapine and risperidone) antipsychotics, compared with age-matched healthy subjects.

Methods: The subjects of this study (n = 45), consisted of 35 patients who met DSM-IV criteria for schizophrenia and 10 healthy control age and gender-matched subjects. Patients were of paranoid subtype, with duration of illness for at least 5 years. Nine patients were under haloperidol (1-2mg daily dose) treatment and 26 (8/10/8) patients were under atypical treatment: quetiapine (300mg daily dose), olanzapine (20mg daily dose) or risperidone (2-4mg daily dose), respectively.

Results: We found a significant decrease in GPX specific activity and also a significant increase of MDA levels in schizophrenic patients, compared to age-matched control group, regardless of their type of treatment. Additionally, an increase in SOD specific activity was observed, mainly in the patients treated with haloperidol and quetiapine.

Conclusions: Further research is necessary in order to elucidate the effects of different antipsychotic agents on antioxidant enzymes.