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# OXIDATIVE STRESS, INFLAMMATION AND COGNITIVE IMPAIRMENT IN FIRST PSYCHOTIC PATIENTS

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Introduction: Both oxidative stress and the inflammatory chemokine MCP-1 have been linked to the pathophysiology of certain mental illnesses such as psychosis. There are previous studies in rats and dogs suggesting that oxidative stress can cause cognitive impairment.
Objectives: To correlate oxidative stress and the chemokine MCP-1 levels with cognitive impairment in first episode psychosis.
Methods: 28 patients with first episode psychosis and 28 healthy controls matched by sex and age were included in the study, who were given a battery of neurocognitive tests and we determined their blood levels of lipid peroxidation (TBARS), nitric oxide, total antioxidant status (TAS), glutathione, activity of enzymes catalase (CAT), glutathione peroxidase (cGPx) and superoxide dismutase (SOD) and the inflammatory chemokine MCP-1.
Results: Healthy controls had better TAS than patients and increased activity of enzymes cGPx and CAT.
We found a statistically significant negative relationship between levels of MCP-1 and working memory, attention and verbal memory. At higher levels of chemokines, worse cognitive functioning in these areas.
Verbal memory was also negatively related, in a meaningful way, with nitric oxide levels in blood.
Likewise, we found that higher levels of glutathione correlated with better scores on the 3 tests performed of verbal fluency.
Conclusions: In patients with a PEP, levels of certain markers of oxidative stress and inflammation are associated with poorer cognitive functioning.

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