

Fatty acids and homocysteine levels in patients with recurrent depression: an explorative pilot study

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Major depressive disorders (MDD) and cardiovascular disease are mutually associated. They share signs and symptoms of the "metabolic syndrome". Two observations that may be causally related with the metabolic syndrome and therefore with both MDD and cardiovascular disease are a decrease in omega-3 polyunsaturated fatty acids (PUFAs) and a rise in plasma homocysteine (tHcy) levels. Both the rise in tHcy and the decrease in omega-3 PUFAs may be associated with enhanced lipid peroxidation. We exploratively studied 44 randomly chosen patients out of a cohort of 134 patients with the recurrent form of MDD (MDD-R). We measured tHcy levels together with saturated FAs, monounsaturated fatty acids (MUFAs) and PUFAs of the omega-3, omega-6 and omega-9 series in plasma and erythrocytes. Levels were compared with laboratory reference values. The main findings were a decrease in the erythrocytes of C22:5omega-3, C22:6omega-3, C24:1omega-9 and C20:3omega-9 and in the plasma a decrease in C24:1omega-9 and C20:3omega-9. The only significant association we found was between the total of omega-6 fatty acids and plasma tHcy. The FA alterations were found in patients although most of them were clinically recovered, suggesting that the alterations may represent a biological "trait" marker for recurrent depression.

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