Abstract


Plasma pterins and folate in late life depression: the Rotterdam Study.

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BACKGROUND: Tetrahydrobiopterin is a cofactor in the synthesis of monoamine neurotransmitters. High neopterin levels generally signal increased immune activation. Both pterins have been investigated in several small clinical studies of depressed patients with conflicting results.

OBJECTIVE: Therefore, we examined the relation of plasma biopterin and neopterin with depression in a population-based study. We also studied the association of pterins with folates in depressed persons as this vitamin is required for pterin biosynthesis.

METHODS: We screened 3884 adults aged 60 years and over for depressive symptoms. Screen positive subjects had a psychiatric interview to diagnose DSM-IV disorder. Plasma pterins and serum folate were determined in all persons with depressive symptoms (n=238) and randomly selected non-depressed persons (n=357).

RESULTS: We found no association between the concentration of biopterin or neopterin with depressive symptoms or depressive disorders. However, in depressed persons the relation between pterins and folates was different than in the non-depressed, i.e. neopterin concentrations increased with folate levels in persons with depressive symptoms (0.09 per log(nmol/l folate); 95% CI=0.01, 0.18, P=0.03), but not in non-depressed persons (-0.07 per log(nmol/l folate); 95% CI=-0.17, 0.03, P=0.18). The interaction between depressive symptoms, folate and neopterin was significant (P=0.03).

CONCLUSION: The study suggests that the relation between folate and pterins is altered in the depressed elderly.

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