

Abstract

J Psychiatry Neurosci. 2007 Nov;32(6):435-8.

Malondialdehyde levels in adult attention-deficit hyperactivity disorder.

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OBJECTIVE: To evaluate the biochemical basis of adult attention-deficit hyperactivity disorder (A-ADHD), we compared lipid peroxidation status in the plasma of A-ADHD patients, and that of control subjects without A-ADHD by quantifying the levels of malondialdehyde (MDA), an end product of fatty acid oxidation. We aimed to examine the association between MDA and A-ADHD.

METHOD: The study comprised 20 A-ADHD patients from Gaziantep University Sahinbey Research Hospital Psychiatry Clinic, diagnosed by 2 psychiatrists (H.A.S. and S.S.) according to the Turkish version of the adult ADD/ADHD DSM-IV-Based Diagnostic Screening and Rating Scale, and 21 healthy volunteers. Malondialdehyde levels were measured in plasma samples of both study groups.

RESULTS: The mean (standard deviation [SD]) MDA levels in patients (2.44 [0.84] nmol/mL) were significantly higher than those of control subjects (0.36 [0.20] nmol/mL) ($t=11.013$, $df=39$, $p<0.01$). MDA levels were correlated with overall number of criteria met ($n=20$, $p=0.01$, $R=0.56$) and total hyperactivity/impulsivity score ($n=20$, $p=0.02$, $R=0.51$).

CONCLUSION: The fact that MDA levels were increased in A-ADHD could be an indication of increased oxidative stress in this disease. We suggest that such changes may have a pathological role in A-ADHD. This is the first study evaluating the MDA levels in A-ADHD, and our findings may provide a scientific guide for the further clinical enzymologic and biochemical studies on this disorder.

PMID: 18043768

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