

Abstract

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Altered vascular phenotype in autism: correlation with oxidative stress.

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BACKGROUND: Autism is a neurologic disorder characterized by impaired communication and social interaction. Results of previous studies showed biochemical evidence for abnormal platelet reactivity and altered blood flow in children with autism.

OBJECTIVE: To evaluate the vascular phenotype in children with autism.

DESIGN AND MAIN OUTCOME MEASURES: Urinary levels of isoprostane F(2alpha)-VI, a marker of lipid peroxidation; 2,3-dinor-thromboxane B(2), which reflects platelet activation; and 6-keto-prostaglandin F(1alpha), a marker of endothelium activation, were measured by means of gas chromatography-mass spectrometry in subjects with autism and healthy control subjects.

SETTING AND SUBJECTS: Children with a clinical diagnosis of autism attending the Pfeiffer Treatment Center.

RESULTS: Compared with controls, children with autism had significantly higher urinary levels of isoprostane F(2alpha)-VI, 2,3-dinor-thromboxane B(2), and 6-keto-prostaglandin F(1alpha). Lipid peroxidation levels directly correlated with both vascular biomarker ratios.

CONCLUSION: Besides enhanced oxidative stress, platelet and vascular endothelium activation also could contribute to the development and clinical manifestations of autism.

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