

Abstract

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Changes in nitric oxide levels and antioxidant enzyme activities may have a role in the pathophysiological mechanisms involved in autism.

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BACKGROUND: There is evidence that oxygen free radicals play an important role in the pathophysiology of many neuropsychiatric disorders. Although it has not been investigated yet, several recent studies proposed that nitric oxide (NO) and other parameters related to oxidative stress may have a pathophysiological role in autism.

METHODS: We assessed the changes in superoxide dismutase (SOD), glutathione peroxidase (GSH-Px) activities and thiobarbituric acid-reactive substances (TBARS) levels in plasma as well as NO levels in red blood cells (RBC) in patients with autism (n=27) compared to age- and sex-matched normal controls (n=30).

RESULTS: In the autistic group, increased RBC NO levels ($p < 0.0001$) and plasma GSH-Px activity ($p < 0.0001$) and unchanged plasma TBARS levels and SOD activity were detected.

CONCLUSIONS: These findings indicate a possible role of increased oxidative stress and altered enzymatic antioxidants, both of which may be relevant to the pathophysiology of autism.

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