

## Ubiquinol supportive therapy in children with autism

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**Background:** Autism is a spectrum of neurodevelopmental disorders with manifestation within 3 years after birth. Manifestations of autism include behavior problems (hyperactivity, self-harm, aggression), sleep and eating disorders. Oxidative stress and antioxidants could participate in pathobiochemical mechanisms of autism. We expected beneficial effects of ubiquinol (reduced coenzyme Q<sub>10</sub>) supportive therapy in children with autism.

**Methods:** Twenty four children, aged 3-6 years, were included in the study according to the criteria DSM IV. Concentration of antioxidants (CoQ<sub>10-TOTAL</sub>, γ-tocopherol, α-tocopherol, β-carotene) and lipid peroxidation were determined in plasma before and after three months of supportive therapy with liquid liposomal ubiquinol at a daily dose 2x50 mg ubiquinol. Psychological tests were evaluated by parents before and after 3-months of ubiquinol supplementation.

**Results:** Baseline plasma TBARS and antioxidants concentration were in reference values, not significantly changed after 3 months of ubiquinol treatment in autistic children. The best improvement in autistic symptomology was observed after three-months of ubiquinol supplementary therapy in children when the plasma concentration of the CoQ<sub>10-TOTAL</sub> increased over 2.5 μmol/L.

**Conclusions:** Beneficial effect of ubiquinol has been demonstrated for the first time in small sample of children with autism. We assume that plasma level of CoQ<sub>10-TOTAL</sub> could be used as a metabolic biomarker of ubiquinol supportive therapy. The results require further study.

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### Biography

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