

Abstract

Mitochondrion. 2010 Sep 9. [Epub ahead of print]

Acquired coenzyme Q10 deficiency in children with recurrent food intolerance and allergies.

Miles MV, Putnam PE, Miles L, Tang PH, Degrauw AJ, Wong BL, Horn PS, Foote HL, Rothenberg ME.

Division Pathology and Laboratory Medicine, Cincinnati Children's Hospital Medical Center, ML 2015, 3333 Burnet Ave., Cincinnati, OH 45229, USA.

OBJECTIVE: The current study evaluated 23 children (ages 2-16years) with recurrent food intolerance and allergies for CoQ10 deficiency and mitochondrial abnormalities.

METHODS: Muscle biopsies were tested for CoQ10 levels, pathology, and mitochondrial respiratory chain (MRC) activities.

RESULTS: Group 2 (age >10years; n=9) subjects had significantly decreased muscle CoQ10 than Group 1 (age <10y; n=14) subjects ($p=0.001$) and 16 controls ($p<0.05$). MRC activities were significantly lower in Group 2 than in Group 1 ($p<0.05$). Muscle CoQ10 levels in study subjects were significantly correlated with duration of illness (adjusted $r(2)=0.69$; $p=0.012$; $n=23$).

CONCLUSION: Children with recurrent food intolerance and allergies may acquire CoQ10 deficiency with disease progression.

PMID: 20817046

