Abstract


Randomized, double-blind, placebo-controlled pilot trial of reduced coenzyme Q10 for Parkinson's disease.

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INTRODUCTION: Mitochondrial complex I deficiencies have been found in post-mortem brains of patients with Parkinson's disease (PD). Coenzyme Q10 (CoQ10) is the electron acceptor found in complexes I and II, and is a potent antioxidant. A recent trial of the oxidized form of CoQ10 for PD failed to show benefits; however, the reduced form of CoQ10 (ubiquinol-10) has shown better neuroprotective effects in animal models.

METHODS: Randomized, double-blind, placebo-controlled, parallel-group pilot trials were conducted to assess the efficacy of ubiquinol-10 in Japanese patients with PD. Participants were divided into two groups: PD experiencing wearing off (Group A), and early PD, without levodopa (with or without a dopamine agonist) (Group B). Participants took 300 mg of ubiquinol-10 or placebo per day for 48 weeks (Group A) or 96 weeks (Group B).

RESULTS: In Group A, total Unified Parkinson's Disease Rating Scale (UPDRS) scores decreased in the ubiquinol-10 group (n = 14; mean ± SD [-4.2 ± 8.2]), indicating improvement in symptoms. There was a statistically significant difference (p < 0.05) compared with the placebo group (n = 12; 2.9 ± 8.9). In Group B, UPDRS increased in the ubiquinol-10 group (n = 14; 3.9 ± 8.0), as well as in the placebo group (n = 8; 5.1 ± 10.3).

CONCLUSIONS: This is the first report showing that ubiquinol-10 may significantly improve PD with wearing off, as judged by total UPDRS scores, and that ubiquinol-10 is safe and well tolerated.

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