Abstract

Introduction: Multiple sclerosis (MS) treatment options are primarily limited to immunomodulatory therapies in MS non-progressive forms. Nutrition intervention studies suggest that diet may be considered as a complementary treatment to control disease progression. Therefore, dietary intervention may help to improve wellness and ameliorate symptoms of MS patients. Objectives: To assess the effect of a low-fat diet with antioxidant supplementation on biochemical markers of institutionalized patients with progressive forms of multiple sclerosis. Methods: A randomized prospective placebo-controlled study involving 9 participants, 5 of them assigned to the intervention group (low-fat diet and antioxidant supplementation) and the other 4 to the placebo group (low-fat diet). The effect of the dietary intervention, involving diet modification and antioxidant supplementation, was examined for 42 days by measuring anthropometric, biochemical parameters and oxidative stress markers in blood at baseline (day 0), intermediate (day 15) and end (day 42) stages of the treatment. Results: The intervention group obtained C reactive protein levels significantly lower than those observed in the corresponding placebo group at the end of the study. Oxidative stress and inflammatory markers isoprostane 8-iso-PGF2 and interleukine IL-6 values also diminished after dietary intervention in the intervention group. Catalase activity increased significantly in the intervention group prior antioxidant supplementation. No significant differences were observed in other oxidative stress markers. Conclusions: The results suggest that diet and dietary supplements are involved in cell metabolism modulation and MS-related inflammatory processes. Consequently, low fat diets and antioxidant supplements may be used as complementary therapies for treatment of multiple sclerosis.

Keywords

Low-fat diet, Antioxidant supplementation, Verbascoside, Multiple sclerosis.