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Neuro Endocrinol Lett. 2010;31(2):169-73.

Oxidative stress and mitochondrial dysfunction in fibromyalgia.Cordero MD¹, de Miguel M, Carmona-López I, Bonal P, Campa F, Moreno-Fernández AM.

+ Author information

Abstract

Fibromyalgia (FM) is a chronic pain syndrome with unknown etiology and pathophysiology. Recent studies have shown some evidence demonstrating that oxidative stress may have a role in the pathophysiology of FM. Furthermore, it is controversial the role of mitochondria in the oxidant imbalance documented in FM. Signs and symptoms associated with muscular alteration and mitochondrial dysfunction, including oxidative stress, have been observed in patients with FM. To this respect, Coenzyme Q10 (CoQ10) deficiency, an essential electron carrier in the mitochondrial respiratory chain and a strong antioxidant, alters mitochondria function and mitochondrial respiratory complexes organization and leading to increased ROS generation. Recently have been showed **CoQ10 deficiency in blood mononuclear cells in FM patients**, so if the hypothesis that mitochondrial dysfunction is the origin of oxidative stress in FM patients is demonstrated, could help to understand the complex pathophysiology of this disorder and may lead to development of new therapeutic strategies for prevention and treatment of this disease.

PMID: 20424583 [PubMed - indexed for MEDLINE]



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