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Oxidative stress, mitochondrial dysfunction and, inflammation common events in skin of patients with Fibromyalgia.

Sánchez-Domínguez B[1], Bullón P[1], Román-Malo L[1], Marín-Aguilar F[1], Alcocer-Gómez E[2], Carrión AM[3], Sánchez-Alcazar JA[4], Cordero MD[5].

Abstract

Fibromyalgia is a chronic pain syndrome with unknown etiology.

Recent studies have shown some evidence demonstrating that oxidative stress, mitochondrial dysfunction and inflammation may have a role in the pathophysiology of fibromyalgia.

Despite several skin-related symptoms accompanied by small fiber neuropathy have been studied in FM, these mitochondrial changes have not been yet studied in this tissue.

Skin biopsies from patients showed a significant mitochondrial dysfunction with reduced mitochondrial chain activities and bioenergetics levels and increased levels of oxidative stress. These data were related to increased levels of inflammation and correlated with pain, the principal symptom of FM.

All these parameters have shown a role in peripheral nerve damage which has been observed in FM as a possible responsible to allodynia.

Our findings may support the role of oxidative stress, mitochondrial dysfunction and inflammation as interdependent events in the pathophysiology of FM with a special role in the peripheral alterations.