Fibromyalgia and chronic fatigue: the underlying biology and related theoretical issues.

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Abstract

There is an increasing interest in understanding the biological mechanism underpinning fibromyalgia (FM) and chronic fatigue syndrome (CFS). Despite the presence of mixed findings in this area, a few biological systems have been consistently involved, and the increasing number of studies in the field is encouraging. This chapter will focus on inflammatory and oxidative stress pathways and on the neuroendocrine system, which have been more commonly examined. Chronic inflammation, together with raised levels of oxidative stress and mitochondrial dysfunction, has been increasingly associated with the manifestation of symptoms such as pain, fatigue, impaired memory, and depression, which largely characterise at least some patients suffering from CFS and FM. Furthermore, the presence of blunted hypothalamic-pituitary-adrenal axis activity, with reduced cortisol secretion both at baseline and in response to stimulation tests, suggests a role for the hypothalamic-pituitary-adrenal axis and cortisol in the pathogenesis of these syndromes. However, to what extent these systems' abnormalities could be considered as primary or secondary factors causing FM and CFS has yet to be clarified.

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