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Med Hypotheses. 2004;62(3):420-4.

Stress and dopamine: implications for the pathophysiology of chronic widespread pain.

Wood PB.

+ Author information**Abstract**

Fibromyalgia has been called a "stress-related disorder" due to the onset and exacerbation of symptoms in the context of stressful events. Evidence suggests that inhibition of tonic pain is mediated by activation of mesolimbic dopamine neurons, arising from the cell bodies of the ventral tegmental area and projecting to the nucleus accumbens. This pain-suppression system is activated by acute stress, via the release of endogenous opioids and substance P within the ventral tegmental area. However, prolonged exposure to unavoidable stress produces both reduction of dopamine output in the nucleus accumbens and development of persistent hyperalgesia. It is proposed that a stress-related reduction of dopaminergic tone within the nucleus accumbens contributes to the development of hyperalgesia in the context of chronic stress and thus plays a role in the pathogenesis of fibromyalgia. A stress-related dysfunction of mesolimbic dopaminergic activity might serve as the basis for other fibromyalgia-associated phenomena as well.

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