Eur J Neurosci. 2014 Feb;39(3):485-500. doi: 10.1111/ejn.12468.

Involvement of the endocannabinoid system in osteoarthritis pain.

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Abstract

Osteoarthritis is a degenerative joint disease associated with articular cartilage degradation. The major clinical outcome of osteoarthritis is a complex pain state that includes both nociceptive and neuropathic mechanisms. Currently, the therapeutic approaches for osteoarthritis are limited as no drugs are available to control the disease progression and the analgesic treatment has restricted efficacy. Increasing evidence from preclinical studies supports the interest of the endocannabinoid system as an emerging therapeutic target for osteoarthritis pain. Indeed, pharmacological studies have shown the anti-nociceptive effects of cannabinoids in different rodent models of osteoarthritis, and compelling evidence suggests an active participation of the endocannabinoid system in the pathophysiology of this disease. The ubiquitous distribution of cannabinoid receptors, together with the physiological role of the endocannabinoid system in the regulation of pain, inflammation and even joint function further support the therapeutic interest of cannabinoids for osteoarthritis. However, limited clinical evidence has been provided to support this therapeutic use of cannabinoids, despite the promising preclinical data. This review summarizes the promising results that have been recently obtained in support of the therapeutic value of cannabinoids for osteoarthritis management.