Rheumatoid Arthritis

Rheumatoid arthritis (RA) is an inflammatory disease of the joints characterized by pain, stiffness, and swelling, as well as an eventual loss of limb function. Rheumatoid arthritis is affects about one percent of the population, primarily women.

The cannabis plant is acknowledged to possess anti-inflammatory, anti-arthritic, and anti-rheumatic properties,[1] and the endocannabinoid system has been proposed as modulator of RA.[2]

The use of cannabis to treat symptoms of RA is frequently self-reported by patients. In a 2005 anonymous questionnaire survey of medicinal cannabis patients in Australia, 25 percent reported using cannabinoids to treat RA.[3] A survey of British medical cannabis patients found that more than 20 percent of respondents reported using cannabis for symptoms of arthritis.[4] A review of state-registered medical cannabis pain patients reported that 27 percent used it to treat arthritis.[5] Nevertheless, there exists limited clinical data with respect to the use of cannabinoids on RA in the literature at this time.

In January 2006, investigators at the British Royal National Hospital for Rheumatic Disease reported successful treatment of arthritis with cannabinoids in the first-ever controlled trial assessing the efficacy of natural cannabis extracts on RA.[6] Investigators reported that the administration of cannabis extracts over a five week period produced statistically significant improvements in pain on movement, pain at rest, quality of sleep, inflammation and intensity of pain compared to placebo. No serious adverse effects were observed. Similar results had been reported in smaller trials investigating the use of orally administered cannabis extracts on symptoms of RA.[7] A randomized, placebo-controlled trial assessing the use of vaporized cannabis in osteoarthritis patients began in Canada in 2016.[8] Nonetheless, the limited number of studies and their short-term duration "allows for only limited conclusions for the effects of cannabinoids in rheumatic conditions."[9]

Preclinical data indicates that cannabinoids moderate RA progression. Writing in the *Journal of the Proceedings of the National Academy of Sciences*, investigators at London's Kennedy Institute for Rheumatology reported that cannabidiol administration suppressed the progression of arthritis *in vitro* and in animals.[10] Administration of CBD after the onset of clinical symptoms protected joints against severe damage and "effectively blocked [the] progression of arthritis," investigators concluded. Daily administration of the synthetic cannabinoid agonist HU-320 has also been reported to protect joints from damage and to ameliorate arthritis in preclinical models,[11] as has the administration of the cannabinoid agonist HU-444.[12]

Summarizing the available literature in the *Journal of Neuroimmunology*, researchers at Tokyo's National Institute for Neuroscience concluded, "Cannabinoid therapy of RA could provide symptomatic relief of joint pain and swelling as well as suppressing joint destruction and disease progression."[13] More recently, experts in the field have opined that "specific activation of CB2 (receptor) may relieve RA"[14] and that "a selective CB(2) agonist could be a new therapy for RA."[15]

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