EUROPEAN JOURNAL OF INTERNAL MEDICINE

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Cannabinoids and cancer pain: A new hope or a false dawn?

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DOI: https://doi.org/10.1016/j.ejim.2018.01.020 | Check for updates

Highlights

- The endocannabinoid system plays a major role in the regulation of key physiological processes. Effects are mediated by system-specific CB1 and CB2 receptors and via other non-specific receptors.
- Pre-clinical research exists demonstrating the modulatory effect of cannabinoids on pain processing.
- To date the evidence for the use of cannabinoids clinically for analgesia has been disappointing.
- Further work is warranted to determine the efficacy of selective CB1 receptor and/or CB2 receptor agonists as analgesic agents.

Abstract

The endocannabinoid system is involved in many areas of physiological function and homeostasis. Cannabinoid receptors are expressed in the peripheral and central nervous system and on immune cells, all areas ideally suited to modulation of pain processing. There are a wealth of preclinical data in a number of acute, chronic, neuropathic and cancer pain models that have demonstrated a potent analgesic potential for cannabinoids, especially in patients with cancer. However, although there are some positive results in pain of cancer patients, the clinical evidence for cannabinoids as analgesics has not been convincing and their use can only be weakly recommended. The efficacy of cannabinoids seems to have been 'lost in translation' which may in part be related to using extracts of herbal cannabis rather than targeted selective full agonists at the cannabinoid CB1 and CB2 receptors.

Keywords:
Endocannabinoids, CB1 receptor, CB2 receptor, Fatty acid amide hydrolase, Analgesia, Malignancy

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