

عنوان مقاله:

Effect of Cannabinoid Receptor Activation on Spreading Depression

محل انتشار:

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خلاصه مقاله:

Objective(s) The objective of this study was to evaluate the effect of cannabinoid on cortical spreading depression (CSD) in rat brain. Cannabis has been used for centuries for both symptomatic and prophylactic treatment of different types of headaches including migraine. CSD is believed to be a putative neuronal mechanism underlying migraine aura and subsequent pain. **Materials and Methods** The effects of Delta⁹-tetrahydrocannabinol (THC), as well as, cannabinoid CB₁ and CB₂ receptor agonists on CSD in rat neocortical slices were investigated. Furthermore, the effect of cannabinoid CB₁ agonist was tested on field excitatory postsynaptic potentials (fEPSP) and long-term potentiation (LTP). **Results** HC (1-20 microM) dose dependently suppressed CSD amplitude, duration, and propagation velocity. Cannabinoid CB₁ agonist, WIN 55,212-2 mesylate (1-100 microM), also significantly suppressed all characteristic features of CSD. However, cannabinoid CB₂ agonist, JWH-133 (1-20 microM), did not affect CSD. FEPSP and induction of LTP were suppressed by application of WIN55212-2. **Conclusion** Suppression of CSD by activation of CB₁ receptors points to the potential therapeutic effects of cannabinoids in migraine with aura. More research is needed before we know whether cannabinoids may be helpful in treating migraine pain.

کلمات کلیدی:

Endocannabinoid, Headache, Marijuana, Migraine, Pharmacotherapy, Synaptic transmission

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