J Vet Pharmacol Ther. 2020 Sep;43(5):508-511. doi: 10.1111/jvp.12896. Epub 2020 Jul 31.

Serum cannabidiol, tetrahydrocannabinol (THC), and their native acid derivatives after transdermal application of a low-THC Cannabis sativa extract in beagles

Mary Beth Hannon [1], Kelly A Deabold [2], Bryce N Talsma [2], Alex Lyubimov [3], Asif Iqbal [3], Alexander Zakharov [3], Lauri Jo Gamble [1], Joseph J Wakshlag [1]

Affiliations

PMID: 32735381 DOI: 10.1111/jvp.12896

Abstract

Cannabinoids hold promise for treating health problems related to inflammation and chronic pain in dogs, in particular cannabidiol (CBD), and its native acid derivative cannabidiolic acid (CBDA). Information regarding systemic delivery of cannabinoids through transdermal routes is sparse. The purpose of this study was to determine pharmacokinetics of transdermal administration of a low-THC Cannabis sativa extract in healthy dogs. Six purpose-bred research beagles were treated with a transdermal CBD-CBDA-rich extract, and serum concentrations of CBD, CBDA, tetrahydrocannabinol (THC), and its acid derivative tetrahydrocannabinolic acid (THCA) were examined prior to and at the end of weeks 1 and 2. A 4 mg/kg dose of total cannabinoids twice daily resulted in appx 10 ng/ml of CBD, 21-32 ng/ml of CBDA, trace amounts of THCA, and unquantifiable amounts of THC in serum at the end of weeks 1 and 2 of treatment. Results showed that CBDA and THCA were absorbed better systemically than CBD or THC.

Keywords: cannabidiol; cannabidiolic acid; dog; hemp; tetrahydrocannabinol; transdermal.

Related information

MedGen

PubChem Compound (MeSH Keyword)

LinkOut - more resources

Full Text Sources

Ovid Technologies, Inc.

Wiley