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Combining co-ultramicronized palmitoylethanolamide and quercetin with physical therapy and acupuncture for chronic pain in a frail patient: a case report in a dog

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Published 09/05/2024

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Categories: Pain Management
Keywords: veterinary pain medicine, acupuncture, quercetin, ultramicronized palmitoylethanolamide

How to cite this abstract
Della Rocca G, Gamba D (September 05, 2024) Combining co-ultramicronized palmitoylethanolamide and quercetin with physical therapy and acupuncture for chronic pain in a frail patient: a case report in a dog. Cureus 16(9): a1323

Abstract

Introduction

Multimodal analgesia, i.e., combining different measures tailored to the individual patient and owner's availability, is currently recognized as the ideal approach to successfully manage chronic pain, especially in frail veterinary patients [1]. Palmitoylethanolamide (PEA) is a bioactive pro-homeostatic lipid mediator [2,3] with anti-hyperalgesic properties, mainly due to the down-modulation of microglia and mast cells [1-3]. Here we report on a frail dog with chronic pain managed with a multimodal non-pharmacologic protocol, including the dietary supplementation with a co-ultramicronized formulation of PEA and the antioxidant flavonoid quercetin (PEA-q, 5:1).

Methods

An 8-year-old, 42 kg, intact male Labrador Retriever with IRIS stage 2 chronic kidney disease due to congenital polycystic kidneys was referred to our algology service because of long-lasting left thoracic limb lameness. At clinical visit, the dog showed pain at palpation of the neck, the right iliopsoas muscle, and the lumbosacral region. Two trigger points were bilaterally identified on the superficial gluteus muscle. At MRI, Hansen type-II disc protrusions were shown at C4-C5, C5-C6 and C6-C7. At x-ray, severe osteoarthritis of the lumbosacral and thoracolumbar spine was evident. Pain severity and pain interference were scored 6 and 5.3 out of 10, respectively, and quality of life was "poor" on the Canine Brief Pain Inventory (CBPI) [4]. Given the clinical frailty of the dog and the owner reluctance to drugs' use (previously administered NSAIDs were poorly tolerated), pain was managed by associating the daily supplementation of PEA-q (14 mg/kg for 8 months) with physical therapy and acupuncture. Physical therapy (twice a week for the first 2 months and weekly for the following 6 months) consisted in TECAR therapy for 15 min (capacitive mode with bipolar handpiece power 50%) and laser therapy at10 Watt for 5 min and 15 s along the back, with a total energy of 2510 J. Five weekly acupuncture sessions were initially performed by placing needles in acupoints GV14, Bai Hui, LI4, BL (21, 23, 25 and 28 bilaterally) and ST36, as well as in correspondence of the areas of neck and gluteal muscle pain. For the following 7 months, 30-min electroacupuncture weekly sessions were applied bilaterally at acupoints BL 21, 23, 25 and 28 using a dense-disperse low frequency program (2 Hz, 210 µs for 4 s alternated with 100 Hz, 120 µs for 2 s).

Results

Pain progressively decreased at monthly assessment on CBPI. Pain at palpation also gradually improved. At the end of treatment protocol, pain severity and interference on CBPI dropped to 3 and 3.5, respectively, and quality of life was assessed as "normal". The treatment regimen was well tolerated.

Conclusions

Long-term dietary supplementation with PEA-q, combined with a non-pharmacologic analgesic protocol, was shown to benefit a frail patient suffering from chronic pain. PEA-q may thus represent a further option for managing frail patients, because of its safety profile and the ability to target newly recognized mechanisms of chronic pain (i.e., neuroinflammation and oxidative stress) [5].

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