

Preliminary evaluation of the effects of cannabidiol via buccal administration, with or without oral carprofen, in alleviating osteoarthritis-associated pain in dogs

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Osteoarthritis (OA) is a chronic joint disease that causes pain, discomfort and reduces quality of life in dogs. This study evaluated the efficacy of cannabidiol (CBD) alone and combined with carprofen in alleviating OA-associated pain in dogs.

In this double-blind, randomized clinical trial, 21 dogs with OA were randomly assigned to either CBD (2 mg kg⁻¹ buccal oil, twice daily, n = 8), Carprofen (2 mg kg⁻¹ oral tablets, twice daily, n = 6) or the Combination group (same dosing of both drugs, n = 7). Animals were treated for 28 days and clinically evaluated weekly using two owner questionnaires (Liverpool Osteoarthritis in Dogs, LOAD and Canine Brief Pain Inventory (CBPI)), visual assessment of gait and joint pain, goniometric measurements and physical activity monitoring using a collar-mounted accelerometer. Data were analysed using mixed models and presented as mean with standard errors.

The LOAD questionnaire showed significant pain reduction across all groups, with Carprofen being the most effective (2.2 ± 0.5 weekly score decrease). The CBPI questionnaire found significant pain reduction only in the Combination group (0.39 ± 0.15 weekly decrease). Joint pain decreased significantly in all groups with weekly trends of -0.21 ± 0.05 (CBD), -0.16 ± 0.06 (Carprofen) and -0.19 ± 0.06 (Combination). Physical activity during weekends decreased significantly by 22.8 % ± 10.5 in the Carprofen group and increased by 10 % ± 6.7 in the CBD group. Weekday activity, gait and goniometric measurements remained unchanged in all groups. Minor adverse events were reported in all groups, with the Combination group showing the highest incidence, especially in elevated alkaline phosphatase.

Preliminary results suggest CBD may alleviate OA pain almost as effectively as carprofen, depending on the measure observed. However, combined therapy may increase the risk of adverse events and should be used cautiously. Future investigations are required.