

**Introduction:**

Multi-modal approach to the relief of chronic pain associated with osteoarthritis (OA) with a focus on Cannabidiol (CBD).

**Synopsis:**

An 8.5 year old, 52.3 kg, Body Condition Score 8/9, spayed female Labrador Retriever presented for a several year history of pain and weakness. Radiographic showed degenerative joint changes in multiple joints and spondylosis at L5-L6 and L7-S1. Grade 3/5 lame front limbs with decreased weight bearing in left front limb, along with decreased joint range of motion of left carpus, shoulder, and hip, as well as bilateral stifles. Patient suffered from generalized pain associated with multi-joint osteoarthritis, exacerbated by obesity.

Pain management plan included use of an NSAID, Gabapentin, as well joint supplements Adequan, Movoflex and Welactin. Additionally, LASER therapy, Massage therapy, Acupuncture, Weight Loss (although ultimately unsuccessful) and Underwater Treadmill were instituted. While initially this approached improved the patient's quality of life, after 6 months we were unable to manage patients pain.

At this time, CBD oil was instituted. Canine Brief Pain Index showed improved comfort with the addition of the CBD oil. Additionally pain medications were reduced or discontinued and several physical rehabilitation modalities were discontinued or significantly decreased in frequency.

**Discussion:**

A multi-modal approach is considered essential to manage chronic osteoarthritis pain. NSAIDs are the mainstays of relief from mild to moderate pain and have both anti-inflammatory and analgesic effects via influencing the expression of arachidonic acid derivatives. The patient was switched from deracoxib to grapiprant for its reported better safety profile. Gabapentin is used to treat chronic neuropathic pain and is thought to inhibit the release of excitatory neurotransmitters. The polysulfated glycosaminoglycan, Adequan, is an FDA-approved disease-modifying drug that inhibits cartilage loss and reduces inflammation in the joint. In addition to drug treatments, several supplements are believed to have pain relieving effects to help manage osteoarthritis. Omega-3 fatty acids have anti-inflammatory effects that has been associated with improved joint pain and effusion. In addition to a generic Chondroitin/Glucosamine supplement, a newer supplement, Movoflex was utilized for reported anti-inflammatory and chondroprotective effects. In addition to pharmacological measures, physical rehabilitation has become a standard part of musculoskeletal injury recovery and has been shown to reduce pain associated with OA in both humans and dogs. Acupuncture is the placement of needles to stimulate an endogenous response of analgesia, healing and immune modulation. Acupuncture is increasingly recommended as part of multi-modal pain management. Photobiomodulation has become a popular tool in veterinary medicine that contributes to pain management by decreasing inflammation and releasing endorphins and has become an important part of OA management. While all of these measures initially helped to improve the patients pain and quality of life, additional pain management was needed. CBD oil has become increasingly popular in both human and veterinary patients, however controlled veterinary studies regarding its safety and efficacy are currently in there infancy, with only a few published to date. CBD oil is of particular interest due to its non-psychotropic effects and potential therapeutic target for managing pain and inflammation associated with osteoarthritis.

**Conclusion:**

This case showed the successful use of a novel treatment, Cannabidiol, to manage osteoarthritis in a canine patient. It illustrates the value of an owner-assessed pain scale to implement and monitor appropriate treatments. Additionally, this case illustrates the often complex nature of managing and monitoring multi-joint osteoarthritis in the canine patient, with the need to balance both significant concurrent patient medical concerns as well as owner concerns.