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Cannabidiol: A new option for pets in pain?

More research on effectiveness is needed, but unless adverse events are reported, it's a treatment worth keeping in mind for your veterinary patients.



Aug 02, 2017

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DVM360 MAGAZINE



Cannabidiol (CBD) has been receiving increasing attention for its use in the treatment of pain in veterinary medicine. Unlike marijuana, which is a class 1 substance that contains varying levels of its active ingredient tetrahydrocannabinol (THC), cannabidiol is an extract of the hemp plant that has THC levels lower than 0.3 percent.

CBD affects the endocannabinoid receptors, which are located in both the central nervous system and the peripheral nervous system. Endocannabinoid receptors are very important as they function to maintain body homeostasis. CBD is deeply involved in those endocannabinoid neurotransmissions in that they upregulate and downregulate neural transmissions as needed to maintain that homeostasis, helping keep the body in a normal and healthy state. Although we're focusing here on the use of CBD for pain in animals, other known actions in humans include the downregulation of anxiety, noise phobia, epilepsy, inflammation, emesis and anorexia, among other actions.

The "magic" of treatments that both upregulate and downregulate neural transmissions is that they always act to move the body toward a normal state and therefore don't shift things in the wrong direction. Acupuncture is another treatment known to have the same type of homeostatic action.

In other words, both acupuncture and CBD work quite unlike many pharmaceuticals. Most pharmaceuticals only stimulate upregulation or downregulation, making it possible to move body systems out of their normal or homeostatic state. Because CBD works toward homeostasis, it doesn't do this, making unwanted side effects rare and giving CBD a good safety profile.

There is almost no published research on the use of CBD in animals. Some research is being performed at Colorado State University, on the use of CBD for pain currently, but as with most research projects, the results won't be available for some time. Therefore, practitioners who want to recommend or dispense CBD must do so based on information from anecdotal evidence—one of the worst types of evidence to rely on.

As a pain practitioner, I will carefully consider utilizing treatments with little or no research behind them as long as there don't seem to be reports of serious adverse events. Our drug armamentarium for pain in veterinary medicine seems woefully deficient, especially when we're dealing with a patient that doesn't respond to proven and approved therapies. However, if we're willing to utilize the unproven treatments, we must also be prepared to discard them if they're eventually shown to have no real evidence supporting their use or when unacceptable side effects or adverse events present themselves. Hopefully this will never be an issue with CBD.

I have encouraged many of my clients to use CBD to treat the pain of degenerative joint disease and other chronic conditions in their pets. The results have been mixed—but that's true of proven treatments such as Nonsteroidal anti-inflammatory (NSAID) therapy as well. In patients where CBD has worked, my clients have reported a decrease in pain, improved sleep patterns, increased appetite and improved attitude, all leading to an overall improvement in quality of life. Again, these clinical impressions are not research and do not carry the weight of well-done studies, but they certainly offer up hope for an additional treatment for pain.

What's more, veterinary clients are already using CBD for their dogs and cats with or without our input, and for a variety of reasons besides pain. Many internet-based businesses have robust sales of CBD. Most states allow the import of hemp-based products as long as the THC level is at 0.3 percent or lower. Most commonly it is being used to treat pain, but it's also used for anxiety, seizures, anorexia, vomiting and as a sleep aid. Clients buy these products without any knowledge of the extraction process, which can have a profound effect on the amount of CBD that is bioavailable. Some companies buy their hemp from Chinese sources, which are often associated with high concentrations of heavy metals and pesticides. Some companies have no quality control and wildly varying concentrations of CBD, including no CBD in their products.

As practitioners, we want to know which company has the best product, what the concentration of the product is, and what quality control and testing have been done for dangerous heavy metals and pesticide contamination. But we may not have any better luck than our clients. For example, I have reached out to several of the more popular companies selling CBD products to get basic information about quality and testing, but none have ever called me back. The FDA did do some testing on CBD products and found that label claims rarely matched the actual content. Some products they tested had no CBD in them at all. The results of the FDA's report can be found here: [fda.gov/newsevents/publichealthfocus/ucm435591.htm](https://www.fda.gov/newsevents/publichealthfocus/ucm435591.htm).

One exception on the horizon may be a product being produced for Peak Performance Veterinary Group in Colorado. It has a CBD concentration of 100 mg/ml in a coconut oil base and has been tested for purity and contaminants. It is also a full-spectrum extraction, which means additional cannabidiol substances such as cannabidivarin (CBDV), cannabichromene (CBC) and cannabigerol (CBG) are also present. For more information on the product you can contact the hospital through peakvets.com.

Future research and experience will give us more information on dosing levels and intervals. Current recommendations for oral dosing of CBD in dogs and cats are 0.02 mg/kg to 0.1 mg/kg given twice daily. According to James Gaynor, DVM, DACVA, DACVPM, of Peak Performance Veterinary Group, for pain management most dogs do well at 0.05 mg/kg twice daily, while cats do well at 0.025 mg/kg twice daily.

Finally, this article would not be complete if we didn't touch on the legality of buying and reselling hemp-based products. The DEA considers CBD a marijuana derivative and therefore subject to class 1 scheduling. However, the agency has enforcement only over the cultivation of hemp—not its distribution. This is why most hemp products come from overseas, resulting in the concerns over heavy metals and pesticide contamination we discussed earlier.

The FDA has also gotten involved because of medical claims made by some manufacturers of CBD products. As a result, in order to avoid prosecution, most CBD products come with no specific medical claims or dosing recommendations. As if that weren't confusing enough, the USDA considers hemp an agricultural product and has made its own statements about the product. Obviously, in order for CBD to be

dispensed without fear of reprisal, all federal agencies need to come together and take a position on the sale and use of CBD products.

Is it worth recommending CBD products to your clients? My answer is yes, as long as you take into consideration the points framed here. Should you have clients buy direct from a manufacturer or resell it yourself? I think that depends not only on how far you want to insulate yourself from the various government agencies, but also on the specific laws of your state concerning the purchase and resale of CBD. This information is changing constantly, but information for some states can be found here: ncsl.org/research/health/state-medical-marijuana-laws.aspx. The information on CBD can be found by scrolling down the page.

Editor's note: We previously listed the dosages in mg/ml. We apologize for our error.

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