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COMPLEMENTARY AND EMERGING PAIN MANAGEMENT TECHNIQUES

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Complementary therapies

In recent years, the popularity of more "holistic" or "natural" approaches to medicine for both humans and pets has increased. Complementary, alternative or integrative veterinary medicine is somewhat challenging to define but the American Veterinary Medical Association (AVMA) has coined the phrase Complementary and Alternative Veterinary Medicine (CAVM) and state that this approach to medicine includes, but is not limited to, aromatherapy; Bach flower remedy therapy; energy therapy; low-energy photon therapy; magnetic field therapy; orthomolecular therapy; veterinary acupuncture, acutherapy, and acupressure; veterinary homeopathy; veterinary manual or manipulative therapy (similar to osteopathy, chiropractic, or physical medicine and therapy); veterinary nutraceutical therapy; and veterinary phytotherapy. Some of these modalities were reviewed during the AVMA Welfare Symposium in 2001.

The AVMA believes that all veterinary medicine, including CAVM, should be held to the same standards and that claims for safety and effectiveness ultimately should be proven by the scientific method. Some of these therapies have a strong scientific basis but the problem in veterinary medicine is the lack of well controlled large scale clinical trials. It is important that the veterinary community strive to add good scientific evidence based medicine to the body of literature.

Acupuncture

This is the most ancient of the disciplines that we will discuss. Historically the legitimacy of acupuncture has been questioned, due to a lack of well controlled scientific and clinical trials, but the tide has turned, and in 1997 the office of alternative medicine based at the National Institutes of Health in the USA issued a statement declaring that there was sufficient evidence of the value of acupuncture to expand its use into conventional medicine and encourage further studies. In December of 2004 the NIH published the following statement “acupuncture provides pain relief and improves function for people with arthritis and serves as an effective complement to standard care”. There are many veterinarians pursuing formal training in this discipline; the International Veterinary Acupuncture Society (IVAS) has certified almost two thousand veterinarians and the Chi Institute of Traditional Chinese Veterinary Medicine holds several comprehensive training sessions every year with certification through the China National Society of Traditional Chinese Veterinary Medicine.

Acupuncture is an ancient Chinese discipline that can be used for many ailments including pain relief. It involves placing needles at specific points on the body and the cause of the resultant analgesia is complex but involves the release of endogenous opioids, norepinephrine, oxytocin, ACTH and serotonin. It is well documented that opioid antagonists such as naloxone block acupuncture analgesia. A detailed discussion of acupuncture is outside the scope of this paper but there are several excellent reviews.

Most dogs and cats tolerate needle placement surprisingly well and acupuncture should be considered a viable choice for analgesic therapy especially for chronic conditions. Each patient is unique and is usually treated differently even if the underlying cause (for example osteoarthritis of the elbows) is the same. Methods of treatment in acupuncture involve assigning the animal to one of the five phases or elements (wood, fire, water, earth, and metal); this is rather like deciding on the animal's personality, feeling their pulses carefully and close examination of the tongue. Different types of acupuncture include dry needles, electro-acupuncture, aqua-acupuncture, moxibustion and low intensity laser therapy.

In a review of the animal specific acupuncture literature Habacher stated that more well controlled studies were required in this field but that there were enough promising results to support pursuing acupuncture as a viable treatment in veterinary patients. Xie and Ortiz-Umpierre have written a good review on what conditions acupuncture can and cannot be used for. Acupuncture was successful in reducing intraocular pressure in normal dogs and may be a treatment option in dogs with glaucoma. In a small study of dogs with elbow osteoarthritis electroacupuncture was not shown to significantly improve their performance (compared to sham treatment) as measured by force plate testing, however eight out of nine owners correctly guessed when their dog had received acupuncture treatment. When acupuncture was combined with "traditional" (steroids and tramadol) treatment of intervertebral disc disease in dogs the time...
Some animal that are painful will not eat and in my experience acupuncture has been effective for appetite stimulation. The classical or traditional point that is often used is called Shan-gen which is similar to GV-25 (GV = Governing Vessel) which is on the midline of the boundary between the hair and non-haired part of the nose.

Rehabilitation medicine

Physical therapy is now commonly incorporated into many veterinary practices for acute post-surgical patients and those with chronic pain syndromes most commonly osteoarthritis. This is a rapidly expanding area of veterinary medicine and several training opportunities exist. Most small animal rehabilitation courses focus on dogs but many of the principals can be applied to cats and despite what one may think, cats can actually do very well and will even tolerate underwater treadmill sessions. Outcome measures have been described so that the efficacy of different therapies can be scientifically studied [9]. The application of physical therapy techniques have shown positive results following stifle surgery in dogs [10, 11]. The use of lasers and shock wave therapy is also increasing but much of this information remains anecdotal.

Stem cell therapies

Autologous adipose-derived stem cell therapy has been commercially available to veterinarians in the United States since 2003. Fat is harvested from the patient, stem and regenerative cells are isolated and administering back to the patient either in specific locations [e.g. into a joint] or intravenously. There are two reports of stem cell therapy in dogs with severe osteoarthritis [12, 13] and both reported a favorable outcome.

Nutritional approaches

Chondroprotectives and Nutraceuticals

The AVMA statement on CAVM reminds veterinarians that animal nutritional supplements and botanicals typically are not subject to pre-marketing evaluation by the FDA for purity, safety, or efficacy and may contain active pharmacologic agents or unknown substances. The mechanism of action of many of the proposed compounds is not known. No well controlled prospective clinical trial using this approach to alleviation of pain related to OA in animals has been published, however surveys show that nutraceuticals are recommended by a lot of practitioners[14]. Chondroprotectants are available as oral nutraceuticals and as injectable (IM, IV or intra-articular) pharmaceuticals. Oral nutritional supplements have been advocated for treatment of chronic pain from osteoarthritis in companion animals although the benefits are still somewhat controversial. Hardie[15] suggests that Cosequin (Nutramax Laboratories) may have some benefits in the treatment of osteoarthritic pain in cats. Some practitioners consider that nutraceuticals may be the first choice of treatment in some dogs and cats with osteoarthritis but their safety and efficacy have not yet been the subject of large scale controlled clinical trials.

Combinations of chondroitin sulphate, glucosamine hydrochloride, and manganese ascorbate are being used in animals with osteoarthritis and cancer as part of a multi-modal approach to pain relief, but again there are no well documented studies. Polysulfated glycosaminoglycans can be given by intramuscular injection in dogs and cats but are only licensed by the FDA for use in dogs (Adequan®, Novartis Animal Health). For an alleviation of pain related to OA in animals has been published, however surveys show that nutraceuticals are recommended by a lot of practitioners[14]. Chondroprotectants are available as oral nutraceuticals and as injectable (IM, IV or intra-articular) pharmaceuticals. Oral nutritional supplements have been advocated for treatment of chronic pain from osteoarthritis in companion animals although the benefits are still somewhat controversial. Hardie[15] suggests that Cosequin (Nutramax Laboratories) may have some benefits in the treatment of osteoarthritic pain in cats. Some practitioners consider that nutraceuticals may be the first choice of treatment in some dogs and cats with osteoarthritis but their safety and efficacy have not yet been the subject of large scale controlled clinical trials.

In this brief discussion we can conclude that there are effective alternative methods for treating pain in animals and that they can be safe if used correctly. However a great deal of research needs to be done so that these therapies can be compared with "Western" methods which are widely published in scientific journals and have proven efficacy.

References

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