

CHRONIC OSTEOARTHRITIS

Osteoarthritis is an extremely prevalent problem that veterinarians deal with on a daily basis. Regardless of the initial cause and severity, the problem becomes a chronic battle against pain and lameness for the patient because there is no cure.

The two broad classes of osteoarthritis are primary and secondary. Primary osteoarthritis is often referred to as “wear-and-tear” joint disease. It has an insidious onset, and is thought to be caused by chronic use combined with aging and senility, and may involve a genetic predisposition to cartilage degradation. Secondary osteoarthritis, identified most commonly in small animal patients, results from an initiating cause such as joint instability, joint immobilization, trauma, or other joint conditions. While secondary osteoarthritis still constitutes an incurable disorder, the good news is that the problem causing it can be addressed in some cases, which may help to retard the progression of the osteoarthritis and provide improved function and quality of life for the patient.

Pain and lameness, stiffness, crepitation, loss of muscle mass, and obesity are often clinically evident in patients with osteoarthritis. Obesity may contribute to the development of osteoarthritis as well as being a clinical sign. Consequently, a vicious cycle of obesity leading to osteoarthritis leading to pain/lameness leading to decreased activity leading to weight gain/obesity develops. This cycle needs to be addressed at multiple levels in order to be broken.

Education about osteoarthritis should be the first form of “therapy”. Studies investigating the treatment of people with osteoarthritis have reported that individuals who attended self-help classes reported decreased pain, decreased physician visits, and an overall improvement in quality of life that was maintained for years after the program. This certainly can be applied to veterinary medicine as well. Educating clients with respect to what osteoarthritis is, how it progresses, what treatment options are available, the components of comprehensive management, and realistic expectations of outcome is vitally important. Education and non-surgical management techniques should be part of every treatment plan for every patient with osteoarthritis whether other modalities such as surgery, physical rehabilitation, or alternative therapies are employed or not. Quality of life should be the primary goal for patients with osteoarthritis and engaging the client in the efforts toward reaching this goal is beneficial for both the patient and client.

Ideally medications for osteoarthritis would relieve pain and inflammation, retard degradation, and promote tissue healing. No such ideal medications exist. However, we can address some of these areas of treatment through single- or multiple-agent therapy. Non-steroidal anti-inflammatory drugs (NSAIDS) are often considered the mainstay for treatment of osteoarthritis. These agents have many beneficial effects and are important in a comprehensive treatment strategy. NSAIDS are anti-inflammatory analgesics, and are sub-classified based on relative inhibition on the arachadonic acid cascade. The major pathways within this cascade are the cyclo-oxygenase (COX-1 and COX-2) and lipoxygenase (LOX) pathways. Data suggest that COX-2 is inducible at sites of inflammation whereas COX-1 is constitutive and results in the production of homeostatic and regulatory prostaglandins and should therefore be spared when addressing inflammatory conditions. However, recent data suggests that the distinction in roles of

COX-1 and COX-2 enzymes is not as well defined as initially thought, and that an additional pathway (COX-3) exists, which is yet to be well characterized. Inhibition of the LOX pathway is also considered anti-inflammatory and to have ulcer-sparing properties.

Currently, the most commonly used NSAIDS such as carprofen (Rimadyl), etodolac (EtoGesic), and deracoxib (Deramaxx) preferentially or selectively inhibit COX-2. Newer NSAIDS such as tepoxalin (Zubrin) are dual pathway inhibitors in that they inhibit both COX and LOX pathways. When using NSAIDS it is vital to monitor for potential adverse effects, including gastrointestinal upset, hepatotoxicity (liver), renal effects (kidney), and keratoconjunctivitis sicca (dry eye condition). It is vital to educate pet owners regarding the advantages and disadvantages of the various products, contraindications, side effects, methods for assessing efficacy, and long-term expectations of NSAID treatment. It is also critical that the owner knows that weight management and activity modification will have much greater positive effects on long-term outcome and are prerequisites for successful medical therapy for osteoarthritis.

Successful outcomes for patients with osteoarthritis cannot be realized unless success has been defined. It is commonplace in veterinary medicine for clients to expect successful outcomes when treating osteoarthritis in their pets. However, these expectations may be unrealistic if the client's definition of success includes a complete return to full function with no pain and no activity restrictions. Unfortunately, this appears to be a very common misperception among clients. Therefore, it is of vital importance for the veterinarian to communicate the fact that there is no cure for osteoarthritis. Our goal for all osteoarthritis patients is to reach a realistic quality of life through comprehensive patient management. Using this realistic approach to defining success, a high percentage of successful outcomes will be realized, the patient will benefit, and the client will be satisfied.

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