Elbow Dysplasia

Elbow dysplasia refers to a group of diseases that commonly cause pain and arthritis in one or both elbow joints. While the list can vary, these include fragmentation of the medial coronoid process (FMCP), an ununited anconeal process (UAP), osteochondrosis dissecans (OCD), and incomplete ossification of the humeral condyle (IOHC). These diseases can occur in one or both legs and can occur independently or simultaneously. Elbow pain is often demonstrated by front leg limping, a head bob when trotting, one or both feet pointed outwards and a reluctance to go downstairs or jump down from a height. The elbow is unforgiving and treatment of many elbow dysplasia diseases can be frustrating with most dogs developing arthritis even with surgical treatment.

Diagnosis

Orthopedic exam abnormalities consistent with elbow pain include a front leg limp, reduced flexion in the elbow, elbow effusion and/or thickening and elbow pain. Radiographs can be helpful but can lag behind cartilage changes; in effect, they commonly underestimate the severity of elbow disease. Computed tomography is a reliable diagnostic tool. Arthroscopy is an excellent diagnostic tool and allows for treatment at the time of diagnosis.

Treatment

Nonsurgical/Medical Management: Nonsurgical management of elbow dysplasia generally incorporates weight loss if needed, use of a nonsteroidal anti-inflammatory drug (NSAID), use of an omega-3 fatty acid diet (e.g. Purina J/M or Hills J/D), pain medication (e.g. Amantadine) if needed and controlled activity (e.g. leash walks, swimming, cavalettis). Regardless of a patient's treatment plan, medical management is incorporated into the long-term treatment plan to limit symptoms of arthritis. Other medications (partial list as new treatments continue to become available) to consider include hyaluronic acid, Adequan and Synovetin. The are many alternative therapies (not approved or regulated by the FDA) that can be considered for the treatment of elbow dysplasia or other arthritic conditions. Examples include cetyl myristoleate, glucosamine and/or chondroitin products, prolotherapy injections, biologics (e.g. platelet rich plasma, protein products, cell injections), and shockwave therapy. Many factors influence outcome including age, breed, body weight and body condition score. Satisfactory pet function can be achieved 50-60% of the time with medical management.

Arthroscopy: ***Arthroscopy is essential for many joint surgeries***. It uses a small camera to explore the joint, confirm a diagnosis and establish the severity of cartilage disease. It is ideal because skin incisions are small and almost all aspects of a joint can be explored with ideal lighting and magnification of the joint structures in high definition. In addition to exploring the joint, some surgical treatments can be performed arthroscopically (e.g. removal of a loose fragment from FCMP or OCD) or with "arthroscopic assistance". Since there are several different diseases, and disease severity differs, postoperative care recommendations and estimate of cost is patient dependent.

Proximal Ulnar Osteotomy (PUO): Depending on the arthroscopic diagnosis and even the severity of cartilage disease a PUO may be recommended. PUO involves cutting the ulna (ulnar osteotomy) and not restabilizing it with a pin or plate. This cut releases the proximal ulna and reportedly allows it to change in position and find a better, mechanically neutral position with respect to the humeral and radius. The goal is for the ulna to heal in this neutral position so the cartilage in the elbow has some chance to heal,

or at least, decreases the rate of cartilage damage. The most common complication associated with PUO is seroma over the incision. Depending on the patient's age, it may take 1-4 months for the PUO site to heal. A bone graft can be placed to encourage bone healing. Exercise restriction for 4-8 weeks after PUO is a common recommendation with additional recovery recommendations made after a recheck radiographs.

Partial and Total Elbow Replacement: Removing bone and cartilage (even if it is abnormal) from the elbow joint and replacing it with an implant for elbow diseases should be done cautiously. For elbow OCD, a SynACART implant might be used to fill the OCD defect and improve joint congruency (arthroscopy and PUO are commonly part of this surgery). Total elbow replacement for severe cases should only be done after other options have been exhausted; it can be effective but has a high complication rate.