Elbow Dysplasia Update

Walter Renberg, DVM, MS, DACVS
Kansas State University
Manhattan, KS

Elbow dysplasia is a syndrome, at times poorly defined, that includes a variety of conditions that lead to incongruency or other abnormalities of the elbow joint that ultimately results in degenerative joint disease. The common conditions that make up elbow dysplasia include fragmented coronoid prcess, osterchondritis dissecans and ununited anconeal process. Less common conditions that may be grouped in with the syndrome include varying forms of elbow incongruity as well as united medial humeral epicondyle. Dramatic gains in the diagnosis and treatment of this syndrome have not occurred, but this presentation will provide an overview of current thought on the subject.

The pathophysiology of elbow dysplasia is thought to be largely genetic, although it is influenced by various environmental factors. Debate exists as to the relative contributions of asynchronous growth of the radius and ulna as well as the influence of various manifestations of failure of enchondral ossification.

Although many aspects of elbow dysplasia can be diagnosed using radiographs, routine images often fail to detect significant lesions due to summation of the relevant anatomy. Computed tomography is widely regarded as the gold standard of noninvasive diagnosis. Specific protocols have been proposed but have not been universally accepted. Subtle changes in positioning or technique may lead to differing conclusions. Arthroscopy can provide valuable information about the appearance of the joint surface. It's utility to combine diagnostic information with therapy makes it an attractive addition to management options. Other modalities such as magnetic resonance imaging or ultrasound may have a role but so far have proved to less useful for most veterinary cases.

The standard treatment of elbow dysplasia has not changed in the last decade despite a great deal of research and discussion. Procedures such as subtotal coronoidectomy can be performed arthroscopically and are gaining in acceptance. More challenging procedures such as sliding humeral osteotomies and dynamic or static proximal ulnar osteotomies have also been explored. Large-scale prospective studies have not yet been conducted to show definitive roles for these surgeries. This presentation will focus on procedures that are more likely to be attempted by the general practitioner.