

Radiographic Detection of Elbow Incongruity

Elbow incongruity describes misalignment of the joint surfaces of the elbow, which is important in the development of elbow dysplasia. Short radius incongruity has also been associated with fragmented medial coronoid process. Although CT or arthroscopy is better than radiography in characterizing elbow incongruity, radiography is still the most frequently used diagnostic method. Radiographic identification of elbow incongruity is typically based on 4 signs: radioulnar step, an enlarged humeroulnar joint space, an elliptic shape of the trochlear notch, and cranial displacement of the humeral head (visible on mediolateral projection). The purpose of this study was to determine sensitivity and specificity for radiographic detection of elbow incongruity in clinical patients, establish inter- and intraobserver variation in different parameters, and evaluate radiographic grading of incongruity.

Radiographs from 17 dogs (29 incongruent elbows) of different ages and breeds were used. Also available for each elbow were CT scans and arthroscopy for comparative purposes. Nine normal joints from another study were used as well. All elbow radiographs were evaluated by 4 observers. Of the elbows scored, 10 were considered to have mild incongruity, 5 had moderate incongruity, and 14 severe incongruity. Radiographic diagnosis

of elbow incongruity was possible in >91% of the patients, although correct grading was difficult to achieve. Radiography is a good method to screen for elbow incongruity, but CT and arthroscopy are more suitable to determine severity and subsequent development of a treatment plan.

■ Commentary

The authors reported high sensitivity and specificity for radiographic detection of elbow incongruity when images were read by radiologists whose training may give them heightened recognition of subtle abnormalities. In addition, elbow incongruity alone may not be the cause of lameness; it is important to remember that medial coronoid disease and its associated wear lesions along the opposing humeral condyle, as well as osteochondrosis, are important (and probably more frequent) causes of elbow lameness in dogs. CT evaluation of the elbows has been performed for decades, which is why these authors used it as their gold standard.—*Jean K. Reichle, DVM, MS, DACVR*

■ ■ Source

Sensitivity and specificity of radiography for detection of elbow incongruity in clinical patients. Samoy Y, Gielen I, Saunders J, et al. *VET RADIOL ULTRASOUND* 53:236-244, 2012.

Juvenile Epilepsy in Dogs

Seizures in dogs are common, with a prevalence of 0.5% to 5.7%. There are 4 major categories: idiopathic epilepsy (IE), symptomatic epilepsy (SE), probable symptomatic epilepsy (pSE), and reactive seizures (RS). The goal of this study was to determine the underlying causes of seizures in dogs <12 months of age and determine the long-term outcome. Medical records from 3 neurology/neurosurgery units were reviewed; 136 dogs met all inclusion criteria.

The mean age of onset for seizures was 6.9 months. MRI scans were performed in 122 dogs and CT in 5 dogs. The seizures were classified as IE in 102 dogs, SE in 23, RS in 9, and pSE in 2. The outcome was determined in 114 dogs; 37% were euthanized because of seizures, and the overall mean survival time was 7 years. Dogs with



seizure onset before 1 year of age and a normal neurologic examination were most commonly diagnosed with IE. There was no association between age at first seizure and survival in this population. The diagnosis of SE had a negative association with survival, whereas dogs that did not receive antiepileptic drugs before referral had a positive association with survival. Border collies diagnosed with IE and dogs with SE had a shorter survival time.

■ Commentary

This study is a good reminder of the importance of having a full metabolic workup, MRI, and CSF analysis on young dogs with seizures. In some breeds, such as the border collies in this study, seizures are more difficult to control. The study looked at a referral population that may have included a larger number of patients with refractory seizures and motivated owners, as compared with the general seizure population. Survival time in dogs with seizures is difficult to measure, as many dogs are euthanized for financial reasons or owner's poor tolerance to seizures and seizure treatment.—*Helena Rylander, DVM, DACVIM (Neurology)* ■ **cb**

■ ■ Source

Aetiology and long-term outcome of juvenile epilepsy in 136 dogs. Arrol L, Penderis J, Garosi L, et al. *VET REC* 170:335, 2012.