

Ununited anconeal process (UAP) by Michael Bell

Ununited anconeal process is believed to be a form of elbow dysplasia and occurs in large growing dogs in which the anconeal process fails to form a bony union with the main body of the ulna.

How does an ununited anconeal process form?

The anconeal process arises as a secondary centre of bone growth in the elbow at 11-12 weeks of age and does not fuse to the ulna until 4-5 months of age. Because of this a diagnosis of UAP cannot be made before five months. Many theories have been proposed for the cause of UAP, none of these being as follows:

- (i) A form of osteochondrosis in which there is a failure of the developing bone to ossify where the anconeal process attaches to the ulna. This in turn leads to the developing area becoming a weakened area of thickened cartilage that dies and in turn cracks. The stress of the dog's weight in this weakened area then causes a failure of this anconeal process to properly join to the ulna.
- (ii) Hereditary
- (iii) Hormonal influences
- (iv) Nutritional
- (v) Tracerra – causing a shearing or fracture of the anconeal process.
- (vi) Developmental joint ineognity has recently been put forward as a possible cause where increased pressure or trauma is placed on the anconeal process. Both trochlear notch malformation and cases where the radius grows larger in relation to the ulna have both been thought to cause pressure on the trochlear notch against the humeral condyles. This can cause a shearing stress on the anconeal process which in turn results in either fracture or enough stress to prevent fusion.

In most cases of UAP the anconeal process is still attached to the ulna via fibrous tissue, but is unstable and hence results in secondary degenerative joint disease. Occasionally the process is found to be free in the joint.

How can UAP be detected?

The condition is usually detected in the large to giant breeds of dogs between 6-12 months of age, with German Shepherd Dogs being over presented as a breed. They usually present with a history of intermittent lameness of one or both legs that become worse with exercise.

On examination affected dogs usually have a stiff gait due to reduced elbow movement. Pain is often detected when manipulating the joint, especially when pressure is applied over the anconeal process at the side of the elbow. Where arthritis is already present swelling may be noticed over the sides of the elbow joint.

On x-ray of the elbow joint a lucent, indistinct line is seen separating the anconeal process from the ulna. Again where secondary arthritis is present a roughening of bone may be seen around the anconeal process and where it attaches to the ulna.

How is UAP treated?

1. Medical management – can be used in dogs less than 5-6 months of age when seen for possible UAP. Here the dogs should be largely confined and given limited exercise. Monthly x-rays should be taken to show after bone fusion of the anconeal or the development of a true UAP. If the latter is shown surgery should be considered.

Overall medical treatment is generally used on older dogs with established secondary arthritis. In such cases surgery to remove the anconeal process fails to stop the progression of the osteoarthritis.

Where conservative medical management is chosen the treatment needs to focus on the basic principles of osteoarthritis management, i.e. weight management and exercise modification. Once lameness subsides exercise is gradually increased to strengthen the surrounding muscles.

2. Surgery – surgical removal of the anconeal process is the standard treatment for UAP when the condition is detected before osteoarthritis has set in.

What recovery can be expected with UAP?

Overall the chances of returning to normal limb function in cases of UAP are guarded because osteoarthritis occurs in most cases. However in dogs with UAP that have the anconeal process surgically removed before one year of age the prognosis for reasonable limb function is good.