FOX VALLEY EQUINE PRACTICE

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Osteochondritis Dissecans (OCD)

Definition

Osteochondritis dissecans (OCD) lesions develop from a disease process called osteochondrosis. In normal bone formation, cartilage is nourished by vessels and gradually mineralizes into bone to form the skeleton. During osteochondrosis, there is a disruption to this normal process and an area of cartilage fails to mineralize leaving a cartilage "plug." OCD is when this cartilage plug, or an associated segment of weak bone, breaks loose and forms a flap that protrudes from the normal smooth bone surface into the joint. These lesions are more prevalent in Standardbreds, Warmbloods, and Quarter horses, but may be diagnosed in any breed or age of horse.

Pathophysiology

An OCD lesion forms during development of the skeleton when a portion of cartilage fails to mineralize and ossify into bone. This fragment of retained cartilage is weak and predisposed to breaking and forming a flap that protrudes from the normal smooth contour of the bone surface. This failure of ossification is thought to be due to disruption of the blood vessels that supply the cartilage during its normal development. Young horses with a fast growth rate and large body size are more at risk of developing this lesion due to the fact that the body cannot ossify the cartilage quickly enough to keep up with growth. There also appears to be a nutritional component involved in the formation of these lesions when there are unbalanced levels of calcium, phosphorus, and copper. A genetic component also appears to play a role.

Clinical Signs

OCD is generally diagnosed in young horses particularly when they enter training. The biomechanical forces placed upon the skeleton during training can disrupt these lesions in turn causing discomfort to the horse. Not all horses with OC or OCD lesions develop clinical signs and may have a full athletic career with no overt signs of a lesion. In horses that do show signs, the most common clinical sign is effusion of the joint with the lesion. Many, but not all, horses are lame.

Diagnosis

A definitive diagnosis is made by radiographing the affected joint. When a lesion is identified, it is very important to radiograph the same joint on the other limb as these lesions are often bilateral (affecting the same joint on each leg). Ultrasound can also be beneficial in aiding in the diagnosis. Lesions can occur anywhere on the skeleton but the more commonly affected areas are within the hock (specifically the distal intermediate ridge of the tibia, lateral trochlear ridge of the talus, and medial malleolus), the stifle (lateral trochlear ridge of the femur and medial femoral condyle), and fetlock (sagittal ridge). It is not unusual to diagnose these lesions on a routine pre-purchase exam in a sound horse.

Treatment

OC lesions within the hock of a horse less than 5 months of age may still ossify and conservative treatment is recommended. OC lesions of the stifle may still ossify up to 8 months of age and conservative treatment is also recommended. Regardless of age, if an OCD develops, surgery is often recommended to remove the cartilage or bone fragment. This can be accomplished arthroscopically when a small camera is advanced into the joint to locate the fragment and remove it. General anesthesia is required. Occasionally, OCD lesions are noticed on routine radiographs in older horses who have been performing well and have shown no outward evidence of a lesion. In many cases, surgery is not performed in these horses and they go on to have a successful career.

Prognosis

If arthroscopic removal of an OCD lesion of the hock is performed, the prognosis is good and a full return to athletic function is likely. Arthroscopic removal of an OCD of the stifle results in a fair to good prognosis for return to full athletic performance. The sooner surgery is performed, the better, particularly when the lesion is in a high motion area such as the stifle. Prolonged irritation caused by a bony fragment within the joint is likely to result in degenerative joint changes over time. Many young horses diagnosed with OCD on pre-purchase who undergo arthroscopic removal go on to have a full and successful athletic career.