



SURGERY:

Osteochondrosis and Osteochondritis Dissecans

Definition

Osteochondrosis (OC) is a condition in which maturing cells in the joint cartilage and metaphyseal growth plates are disturbed. This disruption of endochondral ossification in the joint results in focal areas of thickened cartilage susceptible to trauma. This can lead to development of a non-healing flap better known as osteochondritis dissecans (OCD). This is a common disease of young (4-7 months) medium, large and giant breed dogs. OC can occur in any synovial joint but is most commonly seen on the caudal humeral head, medial humeral trochlear ridge, lateral femoral condyle, and talus.

Pathogenesis

OC is thought to have a multi-factorial in etiology, although a hereditary predilection has been documented. Other factors that may contribute to OC include rapid growth, anatomic conformation, trauma, and dietary imbalance. Once the initial step takes place resulting in thickened cartilage, further stress, trauma, and degeneration can cause circumferential cracks and flap formation. An inflammatory reaction within the joint and subsequent pain and lameness may result. The flap can either stay in place or dislodge and become a joint mouse.

Diagnosis

Physical examination findings may be suggestive of OC however radiographs are necessary for a definitive diagnosis. Up to 30% of dogs with shoulder OC may be bilaterally affected. Radiographic changes of OCD lesions include flattening of the cartilage surface or a radiolucent divot in the subchondral bone. The flap can also appear as a radiopaque line or joint mouse because the flaps can undergo dystrophic calcification. The most common site of OC is the caudal humeral head. These dogs may have an intermittent to progressive forelimb lameness and are painful on hyperextension of the shoulder joint. A lateral radiographic projection is most helpful in confirming the diagnosis.

Treatment & Prognosis

After 6 months of age, it is unlikely that the flap will heal and therefore surgical removal of the flap is the recommended treatment. During surgery the cartilage flap is removed and the cartilage at the periphery of the flap is curetted. It is recommended that the subchondral bone be foraged to promote bleeding, improving fibrocartilage formation. This surgical procedure can be performed with an open arthrotomy or arthroscopy for a minimally invasive approach. The prognosis for dogs with shoulder OCD is very good. The prognosis for other locations of OCD is more variable, but early surgical intervention is usually recommended.

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Michigan Veterinary Specialists has board-certified surgeons at the Auburn Hills and Southfield locations. A member of the surgery team is on-call 24/7 to provide consultations to MVS emergency doctors and to perform the emergency services. Our surgeons are available for questions and consultations on surgical conditions during the weekdays.

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