

Osteosarcoma (OSA)

What is it?

Osteosarcoma is bone cancer and is the most common type of bone tumor seen in canines. It is highly aggressive and metastasizes easily, making it challenging to treat.



What causes it?

The exact cause is unknown, but a genetic predisposition is suspected and environmental influences such as foreign objects embedded in bone (bullets, bone transplants, etc.), healed fractures, and chronic osteomyelitis cannot be ruled out. Bone continuously regenerates throughout an animal's lifespan. It is hypothesized that a "misfire" in this normal process starts the proliferation of the cancerous cells.

Signs & Symptoms

OSA usually presents as a progressive lameness and/or swelling of the affected limb in middle-aged (6-8 years old), large or giant breed dogs. Osteosarcoma can occur in any bone, but is frequently seen in the extremities. OSA "hates the elbow and loves the knee". It is usually found in the shoulder (proximal humerus), the wrist (distal radius), in the front leg and at the stifle in the rear leg (distal femur, proximal tibia). It is less commonly found in the hip and hock.

Cancerous bone is abnormal bone and is prone to breaking with everyday forces such as walking. Dogs with pathologic fractures present with sudden, acute lameness and no history of trauma.

Treatment:

Due to aggressive, local growth and rapid spread to other parts of the body, this is a very difficult disease to treat. Pain management is critical to quality of life. There are multiple classes of pain drugs available but can also include radiation therapy, limb sparing surgery, and certain osteoporosis drugs as options. These are not cures.

Depending on location and severity, amputation may be considered as a pain management option. Amputation with chemotherapy has the potential to extend the dog's life more than just amputation alone. Unfortunately, this is a devastating disease with a poor prognosis; comfort and quality of life for the dog should be a primary consideration.

Prevention:

There is currently no way to prevent osteosarcoma, although a relatively new "vaccine" is promising and may slow progression of the disease. It is not a vaccine in the sense of vaccinating to prevent a disease. It is immunotherapy to teach the immune system to reject cancer cells.

Testing

Complete physical, orthopedic, and neurologic exams are required to rule out other potential causes of lameness. Diagnostic imaging (x-rays) show a pattern characteristic of OSA, but are not definitive. A bone biopsy can definitively diagnose cancer and not another, benign process with a similar radiographic appearance. Once a diagnosis is confirmed, further imaging may be recommended to determine if the cancer has spread.

This information is not meant to be a substitute for veterinary care. Always follow the instructions provided by your veterinarian.

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