

PANOSTEITIS AND HYPERTROPHIC OSTEODYSTROPHY

Panosteitis and Hypertrophic Osteodystrophy (HOD) are both metabolic bone diseases of young, mostly rapidly growing, larger breed dogs. Panosteitis affects the long bone diaphyses (shafts) of slightly older pups (~ 5-18 months of age); while, HOD affects the metaphyses (flared regions of long bones) of younger pups (~ 2-8 months of age). The long bones include the humerus, radius, ulna, femur and tibia; thus any/all limbs can be affected all at once or intermittently. The etiology/cause of these conditions is unknown, but both are generally self-limiting. Males seem to be more often affected by HOD. There is no reported sex predisposition for panosteitis.

The main presenting complaint and clinical sign for panosteitis are lameness (often “shifting leg” lameness) without a history of injury and pain on deep palpation of the affected long bone shafts. These pups are usually still eating/drinking, relatively active and otherwise systemically healthy. HOD pups on the other hand usually present for reluctance to move, decreased/absent appetite and fever. Painful swellings around the metaphyseal regions are usually found on physical examination. Body temperature can be very high, even up to 106 degrees F.

The diagnosis of either of these diseases is largely based on age, breed and physical examination findings. Non-specific bloodwork changes indicating bone turnover and inflammation may be present. Radiographic/x-ray findings tend to be more specific. With panosteitis, the medullary cavity/bone marrow cavity down the shaft of the bone tends to look more opaque and mottled than normal and the cortex may be thickened. As the disease runs its course, these radiographic changes usually resolve. With HOD, there is often a radiolucent (dark) line/band at the metaphysis of the bone, adjacent to the cartilaginous growth plate, and soft tissue swelling. As the HOD process progresses, a rough collar of new bone becomes apparent at the metaphysis. After several months, these changes may resolve or completely disappear, but some residual thickening may remain indefinitely.

Treatment of panosteitis and HOD is supportive and symptomatic. Pain medications and non-steroidal anti-inflammatory (NSAID) medications are key. HOD pups may need to be hospitalized for IV fluids, other treatments to bring body temperature down, electrolyte supplementation and more aggressive pain control. There is no definitive treatment for either of these disease processes. We support them through the worst of it, while allowing the process to run its course. The overall prognosis for panosteitis and HOD is good with full recovery typical. However, HOD carries a relatively worse prognosis due to the systemic signs of illness and severe discomfort.