Diagnosis and treatment of a pregnant bitch with immune-mediated polyarthritis
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Immune mediated polyarthritis is a relatively common disease in dogs resulting in painful joint effusion. It is a type III hypersensitivity reaction where immune complexes deposit into joints, causing inflammation and cytokine release, thereby attracting neutrophils which cause further damage. The stifle and carpal joints are most commonly affected in middle age, medium to large breed dogs. Currently, glucocorticoids are the cornerstone of treating animals with immune mediated polyarthritis.

A two- year-old intact female Golden Retriever dog presented to the University of Minnesota Veterinary Medical Center Emergency Services for acute onset of lethargy with shifting leg lameness and a stilted gait. Focused assessment with sonography for trauma (FAST) indicated at least three puppies with normal heart rates, approximately 34 days old. Bilateral carpal and stifle effusion was noted. An inflammatory leukogram with a mild anemia and mild hypoproteinemia, consistent with systemic inflammatory response, was present. SNAP 4Dx Plus (Canine Heartworm Antigen-Anaplasma Phagocytophilum-Platys-Borrelia Burgdorferi-Ehrlichia Canis-Ewingii Antibody Test Kit, IDEXX Laboratories, Westbrook, ME) was negative. Cytology of fluid obtained via arthrocentesis demonstrated marked non-degenerate neutrophilic inflammation with no organisms, confirming a diagnosis of immune mediated polyarthritis. Treatment options discussed with the owner included: prednisone, niacinamide and doxycycline, or delaying therapy until after whelping. Prednisone can lower gonadotropin concentration in bitches and can lead to spontaneous abortion. Doxycycline, while synergistic with the niacinamide, can affect bone formation in developing puppies. The owner elected niacinamide therapy only. As of this writing the pregnancy was progressing normally and the bitch’s clinical signs had resolved.

Pregnant animals can be difficult to treat with the recommended drug protocols, as drugs may have deleterious effects to the unborn fetuses. This case emphasizes the importance of having multiple treatment options available and communication with owner regarding risk and benefit of various therapies for the safety of both the bitch and her unborn puppies.

Keywords: Canine, immune-mediated polyarthritis, niacinamide, pregnancy

References