



Always consult with a veterinarian that you feel comfortable with before diagnosing or treating any disease on your own. This information is for reference only.

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Masticatory Muscle Myositis

Issue Description

Masticatory muscle myositis (MMM) is an inflammatory disease in dogs affecting the muscles of mastication (chewing). MMM is the most common inflammatory myopathy in dogs. The disease mainly affects large breed dogs.

Other Names

Atrophic Myositis, MMM, Eosinophilic Myositis

Causes

MMM is caused by the presence of 2M fibers in the muscles of the jaw. 2M fibers are not found elsewhere in the body, but they are close in structure to proteins found on the surface of bacteria. The immune system recognizes these proteins as foreign to the body and attacks them, resulting in inflammation.

Symptoms

MMM appears as an acute (sudden) and chronic form (more common). Canines with the acute form may be lethargic, feverish, and reluctant to eat or chew. The patient may exhibit swelling of facial and forehead muscles, excessive salivation, bulging eyes, prolapsed third eyelids, shrinkage of head muscles, sunken appearance and enlarged local lymph nodes. Dogs can still be active and alert. Dogs with the chronic form cannot open the mouth normally or at all.

Diagnosis

Diagnosis of MMM involves patient history and physical exam. A complete blood count (CBC) can indicate the acute form with perhaps mild anemia and an elevated neutrophil count, or the chronic form with normal results. A biochemical profile can assess the kidney and liver and other systems. A serum creatine kinase may show elevated CK measurements. The Serum Type 2M myosin antibody titer (2M Test) from the University of California, San Diego, can measure the level of antibody attacking the masticatory muscle. A muscle biopsy and immunocytochemistry can reveal inflammatory cells and resultant muscle cell death. Other tests include an electromyography (EMG), skull and dental radiographs, CT scan or other imaging tests.

Treatment

Treatment of Masticatory Muscle Myositis should suppress the immune system to stop the antibodies from destroying the muscles. Immunosuppressive doses of corticosteroids, including prednisone or dexamethasone may help. Prednisone may result in clinical improvement. If steroid therapy does not yield a successful response, additional immunosuppressive drugs may be prescribed. Side effects of corticosteroids may make the canine drink and urinate more and have an increased appetite. Dogs can experience gastrointestinal upset, bladder infection, bleeder or ulcer, vomiting, diarrhea, and dark and tarry stool.

Suppressing the immune system may lead to problems including risk of secondary infection. Affected areas include urinary and respiratory tracts. Signs include straining to urinate and blood in urine. Coughing and/or nasal discharge may be present. A skin infection may develop showing red, irritated or itchy skin.

A feeding tube that involves a small bore tube through the nose to the esophagus or a surgically placed tube can help the patient that cannot open its mouth.

Care and Prevention

- Recheck examination every 3 to 4 weeks during the first several months of therapy is important to monitor response to treatment and allow the veterinarian to taper the medications appropriately. In many cases, long-term or even lifelong therapy may be necessary.
- Feeding soft foods at home until the dog's signs have improved is imperative. Home management of a feeding tube may be required as well.
- Avoidance of rawhides or other chew toys is advisable.
- There are no preventative measures to reduce risk of MMM.

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