TREATING CANINE HYPOTHYROIDISM

Autoimmune Hypothyroidism in Dogs

Dogs are susceptible to many different autoimmune disorders. One of the most common is autoimmune canine hypothyroidism.

Hypothyroidism is one of the most common autoimmune disorders affecting dogs. Canine hypothyroidism tends to preferentially affect certain breeds, particularly Golden Retrievers, Great Danes, Beagles, Boxers, Borzois, Shetland sheepdogs, American cocker spaniels, Rottweilers, Labrador retrievers, Doberman pinschers, German shepherds, Akitas, Old English sheepdogs, and Irish setters. Unlike autoimmune hypothyroidism in humans, canine hypothyroidism affects males and females equally. Similar to hypothyroidism in humans, most conditions of hypothyroidism in dogs are autoimmune and are characterized by the presence of thyroid antibodies in blood.

Symptoms

Canine hypothyroidism typically begins around puberty and its incidence increases with aging. All three of our canines, 2 boxers and 1 boxer-mix have hypothyroidism, diagnosed after age 7. Similar to humans with hypothyroidism, canines tend to develop a cluster of predominant symptoms that can change over time rather than developing all associated symptoms.

Symptoms of hypothyroidism in canines can mimic other diseases such as degenerative myelopathy, a condition that causes hind leg lameness. Other symptoms include weight gain, skin dryness, pus-filled lesions on the skin, infertility, irregular estrous cycles, bradycardia (slow heart rate), resorption of fetuses after being bred, neurological problems, cardiac arrhythmias, muscle weakness, unprovoked aggression toward other animals or people, sudden onset of adult seizures disorder, shortness of breath, fatigue, cognitive changes, joint pain, moodiness, hearing loss, erratic temperament, hypo-attentiveness, depression, fearfulness, hoarseness, phobias, ear inflammation, crusty skin, exercise intolerance, inclination toward infection, incontinence, anxiety, passivity, compulsiveness, and irritability.

Diagnosis

Hypothyroidism in dogs is diagnosed with blood tests for levels of the primary thyroid hormones thyroxine (T4) and triiodothyronine (T3). Low levels are indicative of hypothyroidism. Blood tests for thyroid antibodies, usually thyroglobulin or thyroid peroxidase antibodies, are used to confirm that hypothyroidism is autoimmune.

Treatment
Treatment consists of levothyroxine, administered in two daily doses every 12 hours. Within a week of beginning replacement hormone, dogs will exhibit increased muscle strength, greater mental alertness, and improved appetite. Within two months, the hair and skin will show improvement. The dose of therapy is monitored with blood tests drawn 4-6 hours after the morning dose. Dogs normally have higher needs for thyroid hormone than humans, and their doses of replacement hormone are accordingly higher.

**Causes**

Several causes have been proposed for the rising incidence of canine hypothyroidism. Vaccines and inadequate or excess dietary iodine are the primary suspected causes. Studies have shown increased blood levels of thyroid antibodies occurring shortly after the administration of multiple-component vaccines. These antibodies are likely produced in response to contaminants from fetal calf serum commonly used to make canine vaccines. It is thought that these anti-bovine antibodies to thyroglobulin and fibronectin proteins then cross-react with a dog's own proteins, resulting in autoantibody production.

Administering rabies vaccines every three years rather than every year and administering different vaccines at different times are steps that have been suggested to reduce the incidence of canine hypothyroidism. Environmental contaminants and allergies are also known to contribute to the development of autoimmune canine hypothyroidism.

Autoimmune disorders in dogs are caused by a combination of genetic and environmental factors. Certain breeds are genetically predisposed to certain autoimmune disorders. For instance, Golden retrievers are at high risk for autoimmune hypothyroidism, and King Cavalier Spaniels have an increased risk for idiopathic thrombocytopenic purpura.

Several studies have shown that the increased amounts of iodine salts in commercial dog foods contribute to the development of autoimmune hypothyroidism in canines, similar to the increased incidence of autoimmune thyroid disease in humans caused by iodine subsidization programs. A natural diet of cooked lamb, chicken, rice, and vegetables has been found to reduce the risk of canine hypothyroidism associated with commercial diets. Over time, some dogs may self-regulate and no longer need replacement hormone although most dogs with canine hypothyroidism will require lifelong thyroid replacement hormone.

**Resources:**

Hypothyroidism, Kaboom boxers Health topics, http://www.kaboomboxers.com/kaboomHEALTH_Hypothyroidism.htm

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