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Information for Clients

Immune-Mediated Skin Disorders

Introduction

Immune-mediated dermatoses are uncommon skin diseases in dogs and cats. This rather broad category includes primary or autoimmune skin disorders and secondary or immune-mediated disorders. In primary autoimmune skin disease the body develops antibodies against normal body constituents. In immune-mediated disease the abnormal immune response may be incited by an outside source. The outside stimulus is most commonly a drug or infectious agent (bacteria or virus). Immune-mediated disorders are not well understood, and the exact abnormal immune mechanism is not usually known.

Clinical Signs

The clinical signs will differ between the various immune-mediated dermatoses. Some immune-mediated disorders target the mucous membranes and cause lesions within or around the oral cavity, eyelids, earflaps, footpads and genital area. Others may target the whole body. Still other disorders target a very specific part of the body such as the nasal planum (the moist, "button" part of the nose) or the claws and claw beds. Often, the clinical signs are confusing as they can mimic other skin disorders. Secondary skin infections (bacterial, fungal and parasitic) may also be present and further complicate the clinical presentation. The primary lesions of many immune-mediated dermatoses range from pustules, blisters or crusts to changes in skin texture or pigment.

Diagnosis

The only way to truly diagnose an immune-mediated skin disease is with a skin biopsy. A biopsy consists of taking several (usually 4 or 5) small pieces of full thickness skin and submitting the skin samples to a laboratory for analysis. The samples are processed and reviewed by a dermatopathologist (a pathologist with special training and experience with skin pathology). Based on what is seen by the pathologist at the cellular level, a diagnosis can be made. Because some immune-mediated disorders can wax and wane, multiple biopsy samples must be taken to best locate an active lesion that will give the most information. In some cases, additional blood tests are also required.

Treatment

Treatment for immune-mediated disorders is specific to the disease – thus the need for an exact diagnosis. Some disorders require immunosuppressive therapy, while others can be controlled with milder, immunomodulatory therapy. In cases where the lesions are few or localized, topical therapy may be enough to control the disease. Unless an underlying, inciting cause for the immune-mediated dermatoses can be found (rare), the condition cannot be cured, but most cases can be controlled. Only about 10% of cases do not respond to treatment. Keep in mind that there are usually several options for treatment, and each case is individual, and will be treated individually according to that patient's diagnosis, age, overall health and lifestyle.

Some of the more common immune-mediated skin disorders come under the heading of the pemphigus complex. The pemphigus complex consists of at least 5 different autoimmune diseases. The most common of these is *Pemphigus foliaceus*. Pemphigus foliaceus appears to have a familial component and certain breeds such as Akitas and Chow Chows seem to be predisposed. However this disorder has been identified in virtually all dog breeds (including mixed breed dogs) and is also seen in cats. Canine and feline Pemphigus foliaceus is a pustular crusting disease that may present with localized or generalized lesions. Additionally, the patient may be painful or itchy, and feel unwell with fever and lethargy. The treatment for the generalized disease usually consists of immunosuppressive drugs such as corticosteroids (cortisone) in combination with other immunosuppressive or immunomodulatory drugs. Often oral antibiotics are given concurrently to ward off secondary infections. This disease can be photoaggravated, and sun avoidance is often necessary. Sunscreen and /or protective clothing may be recommended. Because all immunosuppressive drugs can cause a variety of side effects, careful monitoring of the patient is mandatory. Blood tests are needed every 2 weeks initially. As the disease process regresses with treatment, the medication dosages can be decreased, and fewer follow up visits and blood tests will be needed. Full control of the disease may take several weeks to months. The objective is to have the patient controlled with the minimum amount of medication possible with the minimum side effects. The therapy for these diseases is usually life-long. Other, immune-mediated dermatoses which require immunosuppressive therapy and management similar to the pemphigus complex diseases include *Erythema multiforme*, and *Systemic Lupus Erythematosus*.

Less severe immune-mediated disorders that can be controlled with much milder immunomodulatory drugs include *Discoid Lupus Erythematosus* (DLE), and *Alopecia areata*. These disorders are more cosmetic in nature and cause your pet minimal discomfort. Immunomodulatory drugs do not suppress the immune system and have few, if any, side effects. Therefore, they do not require the monitoring and blood tests of immunosuppressive therapies.

Prognosis varies with the diagnosis, and the patient's individual response to therapy. Though immune mediated skin disorders cannot be "cured", many patients do well with therapy, and good quality of life with complete resolution of clinical signs is possible!