

## Autoimmune Skin Disease in Cats

Author: Ernest Ward, DVM

### What is an autoimmune disease?

The term *autoimmune* is a confusing one.

"...your immune system attacks itself by mistake..."

Our bodies have an immune system that protects us from foreign invaders that can cause disease and infection; however, if you have an autoimmune disease, your immune system attacks itself by mistake, causing illness. The immune cells fail to distinguish the body's normal healthy cells from foreign cells and thus try to destroy the normal tissues. The cause of this "mistake" is not well understood. Autoimmune disease can affect a single system multiple body systems.

Autoimmune diseases can affect skin, connective tissue, nerves, muscles, the endocrine system (the system that controls hormones and other chemicals), and the digestive system.



### What causes autoimmune disease?

"Some theorize that genetics and/or environmental pollutants play a role."

The cause or causes of autoimmune disease are not understood, although some theorize that genetics and/or environmental pollutants play a role. Early recognition is extremely important. Left untreated, the complications of autoimmune disease are serious and multiple system involvement is common. This can make diagnosis and treatment very challenging and complicated.

### What are some of the common autoimmune skin diseases in cats?

Fortunately, autoimmune skin diseases are rare in cats. Some of the more common forms of autoimmune skin disease include:

#### **Pemphigus complex**

Pemphigus is a group of four autoimmune skin diseases characterized by vesicles and bullae (or large and small "blisters") in the mouth and at mucocutaneous the junctions between skin and mucosal tissues). Commonly affected areas include the eyelids, lips, nostrils, and anus.

*Pemphigus Foliaceus* - The term means "leaf-like pemphigus" and this is the most common immune-mediated skin disease of dogs and cats. *Pemphigus foliaceus* is rarely found in the mouth or at mucocutaneous junctions. With pemphigus foliaceus, the patient develops crusts (scabs) and ulcers around the eyes, ears, footpads, groin, and

bridge of the nose. In cats, lesions also develop at the toenail beds creating crusty sore feet. Pemphigus foliaceus usually appears suddenly without a recognized cause, but in some cases it may be drug induced or can be the result of years of chronic skin disease.

*Pemphigus Vulgaris* - The term means "common pemphigus" and it is the most frequent form of pemphigus in humans. Fluid filled blisters called "vesicles" form in and around the mouth, eyelids, lips, nostrils, anus, prepuce or vulva. These vesicles rupture easily, creating painful ulcers.

*Pemphigus Erythematosus* - The term means "red and inflamed pemphigus" and its most common symptom is redness, crusting, scales and hair loss on the nose. Exposure to ultraviolet light worsens this form of pemphigus.

*Pemphigus vegetans* - this form is typified by thick and irregular vegetative lesions or lumps associated with chronic oozing and pustules. It is thought to be a more benign form of pemphigus vulgaris.

### **Bullous Pemphigoid**

*Bullous pemphigoid* may sound like a form of pemphigus, but it is actually a different type of autoimmune skin disease. *Bullous* is the medical term for a large thin-walled sac filled with clear fluid. Usually the skin is very itchy and large red welts and hives may appear before or during the formation of blisters. Vesicles and ulcers may be found in the mouth, at mucocutaneous junctions, and in the axillae (armpits) and groin. Evaluation of the vesicles is critical to the diagnosis and because they rupture quickly after formation, the cat must often be hospitalized and examined every two hours until adequate biopsies can be obtained. Bullous pemphigoid resolves spontaneously in many cases.

### **Systemic lupus erythematosus**

The classic example of a multi-systemic autoimmune disease is *systemic lupus erythematosus* (SLE), commonly referred to as *lupus*. Lupus is often called the "great imitator" because it can mimic almost any other disease state. The signs of SLE may be acute (sudden onset) or chronic and usually they wax and wane. A fluctuating fever that does not respond to antibiotics is one of the classic clinical signs of SLE. Stiffness in the legs or shifting-leg lameness is also frequently reported with SLE. Other clinical signs may include blood abnormalities such as hemolytic anemia, thrombocytopenia (low platelet numbers), and/or leukopenia (a low white blood count), or a symmetrical dermatitis, especially over the bridge of the nose (often called a "butterfly lesion").

### **Discoid Lupus Erythematosus (DLE)**

Discoid lupus erythematosus (DLE) is another autoimmune skin disease seen in dogs and rarely in cats. The common clinical signs of DLE include loss of pigmentation around the cat's lips, the skin around the eyes, the ears and the genitals may be affected. DLE can transform the surface of the nose from its normal "cobblestone" texture to smooth and flat. Ulcerated sores may occur. Some cats find the disease irritating while others don't seem affected by it.

It is possible that DLE is a non-systemic, less-serious type of systemic lupus erythematosus (SLE).

## **Are there autoimmune diseases that affect other body tissues in the cat?**

Yes, Examples of autoimmune diseases affecting tissues other than the skin include:

- Autoimmune hemolytic anemia (reduction of red blood cells)
- Immune-mediated thrombocytopenia (destruction of clotting cells)
- Irritable bowel syndrome
- Immune-related arthritis (polyarthritis)

## How is autoimmune skin disease diagnosed?

"...a biopsy of the affected skin is needed."

To definitively diagnose autoimmune skin disease a biopsy of the affected skin is needed. Depending on the location, a skin biopsy may be performed with a local anesthetic. However, if the affected area involves the nose or face, or if the patient is anxious, sedation or general anesthesia may be required. A small round block of skin is removed with an instrument called a *punch biopsy*. This tissue sample is then sent to a veterinary pathologist to determine the diagnosis.

## How is autoimmune skin disease treated?

The general treatment for autoimmune skin disease is immunosuppression. This means that your cat will receive drugs to reduce or attenuate the reaction of the immune system, which is causing the disease. For many cats, treatment with prednisone or dexamethasone will be sufficient. Other cats require stronger immunosuppressants such as chlorambucil or oral cyclosporine. If secondary bacterial infections are present, antibiotics and medicated baths will be used. Your veterinarian will determine the optimal treatment plan for your cat's condition.

## What is the prognosis for autoimmune skin disease?

The prognosis for autoimmune skin disease depends on your cat's specific diagnosis and the severity of symptoms.

"This is a potentially life-threatening condition..."

In general, this is a potentially life-threatening condition requiring extensive diagnostic tests and treatments. Autoimmune disease is rarely curable, but is often controllable with the appropriate medication.