

Eosinophilic Disease in Cats

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Feline eosinophilic diseases (formally known as feline eosinophilic granuloma complex) are a group of conditions usually involving an overreaction of one of the cat's white blood cells called an eosinophil. The eosinophil gets its name because of its response to a certain stain: the eosin stain. Eosin stain gives these cells a unique and identifiable look when viewed through a microscope. One of the primary functions of the eosinophil is to defend the body against a parasitic invasion. The level of eosinophils will typically rise in a cat's blood stream if there is a flea infestation or an infection with an internal parasite (e.g., a roundworm infection). These white blood cells "home-in" on signals produced by the body's reaction to these invaders. The eosinophil will then release a chemical substance that attempts to kill the intruder.

Unfortunately, the cat's body can be "tricked" into an eosinophilic reaction by more benign substances like dust or pollen. Allergies to airborne substances, foods, or fleas, combined with genetic predisposition in some cats, result in an overreaction of the cat's eosinophils and subsequent damage to collagen (a component of skin). This can lead to a number of conditions including:

- Eosinophilic granuloma
- Eosinophilic plaque
- Indolent ulcer (also known as the rodent ulcer)



Feline eosinophilic diseases are more common in female cats.

What is an eosinophilic granuloma?

The eosinophilic granuloma is also known as a linear granuloma. These lesions appear in three forms:

- The linear form occurs as a firm, raised, long thin lesion found on the hindlimb or abdomen. It may also be seen on the footpads. These lesions may or may not itch and they are usually self-limiting (go away on their own).
- The pharyngeal form occurs as a smooth or wart-like nodule found in the mouth or throat of older cats. These lesions may obstruct breathing and swallowing. They may be associated with an indolent ulcer (see below).
- The chin form appears as edema of the chin. The edema may come and go.

What is an eosinophilic plaque?

Eosinophilic plaques are highly pruritic (itchy), well-defined, and appear ulcerated or eroded. They are usually located in the:

- Inguinal region
- Medial (inner) thigh
- Lower abdomen
- Muco-cutaneous junction (anywhere skin meets a mucous-membrane)

Eosinophilic plaques are most often associated with an intense allergic reaction, for example flea bite dermatitis.

What is an indolent ulcer?

An indolent (painless and slow to change) ulcer, or rodent ulcer, is usually found on the margin of the cat's upper lip. The indolent ulcer has a very unique appearance and typically does not require further diagnostics. At times, a lesion will also form on the cat's tongue; usually near the back of the mouth. The exact cause of an indolent ulcer is not known although a genetic predisposition and a hypersensitivity reaction, such as flea-bite dermatitis, are highly suspected. This is the most common lesion of the eosinophilic diseases.

How are eosinophilic diseases in the cat diagnosed?

Diagnosing feline eosinophilic diseases involves recognizing their specific clinical signs and examining the lesion at the cellular level using histopathology (microscopic examination of a biopsy).

Feline eosinophilic diseases need to be differentiated from these other conditions:

- Mast cell tumor
- Squamous cell carcinoma
- Cutaneous T-cell lymphoma
- Bacterial or fungal infection
- Demodicosis
- Food hypersensitivity
- Trauma

- Atopy (allergic reaction to air-borne allergens)
- Herpes virus
- Feline cow pox
- Calici virus
- Feline leukemia
- Cryptococcosis

How are eosinophilic diseases in the cat treated?

Eosinophilic granulomas: Management of an eosinophilic granuloma usually involves a systemic anti-inflammatory medication (usually a corticosteroid such as prednisolone or dexamethasone). It is also very important that any underlying cause be addressed, such as a comprehensive flea control program to eliminate flea bite dermatitis. Typically the eosinophilic granuloma is self-limiting.

Eosinophilic plaques: Management of an eosinophilic plaque involves addressing the underlying cause such as flea allergies or airborne allergens. Again, systemic anti-inflammatories (usually a corticosteroid) are prescribed to decrease the lesion's swelling and control the itching.

Indolent (rodent) ulcer: Management of an indolent ulcer includes controlling underlying hypersensitivities, especially to fleas. Antibiotics may be prescribed along with corticosteroids to decrease the lesion's swelling. In more resistant cases, cats may need treatment with cryosurgery (freezing), laser surgery, radiation therapy, and or the drugs interferon, chlorambucil or cyclosporine (Atopica).

Summary

The feline eosinophilic disease represents a disorder of the cat's immune system and its eosinophils in particular. Eosinophils are designed to seek foreign invaders, especially parasites and destroy them. Cats with eosinophilic disease complex have eosinophils that "over-react" to a foreign substance such as foods, airborne substances (e.g., pollen), or fleas. This over reaction causes damage to the cat's collagen leading to a number of disease conditions. These conditions can generally be controlled with anti-inflammatory medications and environmental control of the allergens. The underlying cause of the lesions must be identified and managed.