

Eosinophilic Granuloma Complex in Cats and Eosinophilic Granulomas in Dogs

Basics

OVERVIEW

- Cats—“eosinophilic granuloma complex” often is a confusing term for four distinct syndromes: (1) “eosinophilic plaque” (circumscribed, raised, round to oval lesions that frequently are ulcerated; usually located on the abdomen or thighs; lesions contain a type of white blood cell, called an eosinophil); (2) “eosinophilic granuloma” (a mass or nodular lesion containing eosinophils; usually found on the back of the thighs, on the face, or in the mouth); (3) “indolent ulcer” (circumscribed, ulcerated lesions; most frequently found on upper lip); (4) allergic miliary dermatitis (skin inflammation characterized by numerous, small, crusty bumps); the four syndromes are grouped together as “eosinophilic granuloma complex” primarily according to their clinical similarities, their frequent simultaneous development and tendency to recur, and their positive response to treatment with steroids
- Dogs—“eosinophilic granulomas” are rare; not part of the eosinophilic granuloma complex; specific differences from cats are presented in the following information
 - “Eosinophilic” refers to eosinophils, a type of white-blood cell usually involved in allergic responses
 - “Granuloma” is a large inflammatory nodule or solid mass
 - “Complex” is a group of signs or diseases that have an identifiable characteristic that makes them similar in some fashion

GENETICS

- Several reports of related affected individuals and a study of disease development in a colony of cats indicate that, in at least some individuals, genetic susceptibility (perhaps resulting in an inheritable dysfunction of eosinophils) is a significant component for the development of the eosinophilic granuloma and indolent ulcer



SIGNALMENT/DESCRIPTION OF PET

Species

- Cats—eosinophilic plaque, eosinophilic granuloma, indolent ulcer, and allergic military dermatitis
- Dogs—eosinophilic granuloma

Breed Predilections

- Cats—none
- Eosinophilic granuloma in dogs—Siberian huskies (76% of cases), Cavalier King Charles spaniels, possibly German shepherd dogs

Mean Age and Range

- Eosinophilic plaque (circumscribed, raised, round to oval lesions that frequently are ulcerated; usually located on the abdomen or thighs; lesions contain a type of white blood cell, called an eosinophil)—2–6 years of age
- Genetically initiated eosinophilic granuloma—less than 2 years of age
- Allergic disorder—over 2 years of age
- Eosinophilic granuloma in dogs—usually less than 3 years of age

Predominant Sex

- Cats—females may be more likely to develop one or more of the syndromes of eosinophilic granuloma complex than are males
- Eosinophilic granuloma in dogs—males (72% of cases)

SIGNS/OBSERVED CHANGES IN THE PET

Cats

- Distinguishing among the syndromes depends on both clinical signs and microscopic findings
- Lesions of more than one syndrome may occur simultaneously; lesions of all four syndromes may develop spontaneously and suddenly (acutely)
- Development of eosinophilic plaques (circumscribed, raised, round to oval lesions that frequently are ulcerated; usually located on the abdomen or thighs; lesions contain a type of white blood cell, called an eosinophil) may be preceded by periods of sluggishness (lethargy)
- A seasonal incidence is possible
- Signs vary in intensity—they may increase and decrease over time (known as a “waxing and waning” course)
- Eosinophilic plaque—loss of hair (known as “alopecia”), reddened skin (known as “erythema”), patches of loss of superficial layers of skin (known as “erosive patches”) or well-demarcated, steep-walled thickened, raised, flat-topped areas that are slightly higher than normal skin (known as “plaques”); usually occur in the inguinal or perineal (area between the anus and external genitalia) areas, along the thighs, lower abdomen, and under the front legs, near the chest; frequently moist or glistening; may have enlarged lymph nodes near the area of the eosinophilic plaques
- Eosinophilic granuloma (mass or nodular lesion containing eosinophils)—occur as (1) a distinctly linear orientation (“linear granuloma”) on the back part of the thigh; (2) an individual lesion or multiple lesions that are coming together, located anywhere on the body; ulcerated with a “cobblestone” or coarse pattern; white or yellow, possibly representing collagen degeneration; (3) lip margin and chin swelling (“pouting”); (4) footpad swelling, pain, and lameness (most common in cats under 2 years of age); (5) ulcers of the mouth (especially on the tongue, palate, and palatine arches)—cats with ulcers of the mouth may have difficulty swallowing (known as “dysphagia”), have bad breath (known as “halitosis”), and may drool
- Lesion development may stop spontaneously in some cats, especially with the inheritable form of eosinophilic plaque
- Allergic military dermatitis (skin inflammation characterized by numerous, small, crusty bumps)—multiple brown/black crusted and reddened, small, raised bumps (known as “papules”); lesions more often felt than seen; may be associated with hair loss (known as “alopecia”); usually itchy (known as “pruritus”); lesions frequently felt/seen along the back of the cat
- Indolent ulcer—classically concave and firm or hardened ulcerations with a granular, orange-yellow color, confined to the upper lips

Dogs

- Eosinophilic granuloma—ulcerated, thickened, raised, flat-topped areas that are slightly higher than normal skin (plaques) and masses; dark or orange color; most often affects the tongue and the folds of moist tissue extending from the soft palate to the side of the tongue (known as the “palatine arches”); skin lesions on the prepuce and flanks have been reported

CAUSES

- Allergy—flea or insect (such as mosquito-bite) allergy, food allergy, and atopy (disease in which the pet is sensitized [or “allergic”] to substances found in the environment [such as pollen] that normally would not cause any health problems)
- Inherited dysfunction of eosinophils is a possible cause
- Eosinophilic granuloma in dogs—unknown cause; genetic susceptibility in certain breeds; increased sensitivity or reaction in the skin to the presence of a foreign material (known as “hypersensitivity”) often suspected (such as to an insect bite) in breeds that do not have a genetic susceptibility

Treatment

HEALTH CARE

- Most pets treated as outpatients, unless severe disease of the mouth prevents adequate fluid intake
- Identify and eliminate offending allergen(s) before providing medical intervention; “allergens” are substances to which the pet has developed an allergy
- “Allergy shots” (known as “hyposensitization”) in cats that have tested positive on skin tests for allergies—successful in a majority of cases; preferable to long-term steroid administration
- Avoid excessive grooming, which may damage the skin lesions

ACTIVITY

- No restrictions

DIET

- No restrictions, unless a food allergy is suspected

SURGERY

- Skin biopsy to obtain samples for microscopic evaluation of lesions
- Surgical removal of a lesion may be performed in some cases
- Eosinophilic granuloma in dogs—individual lesions may be removed surgically if they are being traumatized or are not responsive to medical treatment

Medications

Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered as all inclusive

EOSINOPHILIC GRANULOMA COMPLEX IN CATS

- Eosinophilic plaque (circumscribed, raised, round-to-oval lesions that frequently are ulcerated) and eosinophilic granuloma (a mass or nodular lesion containing eosinophils)
 - ♦ Antibiotics—trimethoprim-sulfadiazine, cephalexin, amoxicillin-clavulanate, clindamycin; effective in some cats
 - ♦ Injectable methylprednisolone—most common treatment; not recommended for long-term treatment as response to medication may decrease with repeated treatments
 - ♦ Steroids—ongoing treatment with prednisolone required to control lesions; other drugs: dexamethasone and triamcinolone
 - ♦ Fluocinolone (a steroid) and dimethyl sulfoxide (DMSO; Synotic lotion)—apply to individual skin lesions (known as “topical treatment”); not practical for cats with many lesions and may cause side effects in these cats
- Indolent ulcer (circumscribed, ulcerated lesions; most frequently found on upper lip)
 - ♦ Steroids administered by injection or by mouth

- ◆ α -Interferon—administered daily in cycles of 7 days on, 7 days off; limited success; side effects rare; no specific treatment monitoring required
- ◆ Antibiotics—trimethoprim-sulfadiazine, cephalexin, or amoxicillin-clavulanate; effective in some cats
- Other therapies
 - ◆ Chlorambucil, a chemotherapeutic drug
 - ◆ Doxycycline, an antibiotic
 - ◆ α -Interferon
 - ◆ Megestrol acetate—not recommended because of the severity of possible side effects; however, may be tried in cats that do not respond to any other treatment

EOSINOPHILIC GRANULOMA IN DOGS

- Steroids administered by mouth—prednisone
- Injection of steroids into the lesions—methylprednisolone

Follow-Up Care

PATIENT MONITORING

- Pets receiving steroids—baseline and follow-up bloodwork (complete blood counts [CBCs] and serum chemistry profiles) and urinalyses with bacterial culture and sensitivity testing of urine
- Pets receiving medications to decrease the immune response (known as “immunosuppressive drugs”)—frequent CBCs (biweekly at first, then monthly or bimonthly as therapy continues) to monitor for bone-marrow suppression leading to low red-blood cell and low white-blood cell counts; routine serum chemistry profiles and urinalyses with bacterial culture and sensitivity testing of urine (monthly at first, then every 3 months) to monitor for complications (such as kidney disease, diabetes mellitus, and urinary tract infection)

EXPECTED COURSE AND PROGNOSIS

- Lesions should resolve permanently if a primary cause can be identified and controlled. Most lesions increase and decrease over time (wax and wane), with or without therapy; thus an unpredictable schedule of recurrence should be anticipated
- Drug dosages should be tapered to the lowest possible level (or discontinued, if possible), once the lesions have resolved; changes in drug dosage should be at the direction of your pet's veterinarian
- Lesions in cats with the inheritable disease may resolve spontaneously after several years
- Eosinophilic granuloma in dogs—may not respond to medical treatment

Key Points

- Possible allergic or inherited causes
- Most lesions increase and decrease over time (wax and wane), with or without therapy; thus an **unpredictable schedule of recurrence** should be anticipated
- In some cases, a decision may be made to postpone medical intervention, unless severe lesions develop