



## Derm News

Whats news at Dermcare...

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## FELINE EOSINOPHILIC GRANULOMA COMPLEX

### a feline enigma?

Notwithstanding feline medicine having made great advances in recent years, a wider appreciation of the eosinophilic granuloma complex is still lacking. Speculation on the cause of the eosinophilic granuloma complex includes viruses, genetic factors, bacteria, auto antibodies as well as parasitic and allergic causes. The evidence for parasitic and allergic causes is compelling, however there is also a genetic component in some cases.

Classically the eosinophilic granuloma complex has three forms, namely eosinophilic ulcer (rodent ulcer, indolent ulcer), eosinophilic plaque and linear granuloma. All three have been lumped together because all may occasionally be found on one animal. The name eosinophilic granuloma complex encompasses a distinct set of clinico-histological features that represent a feline cutaneous reaction pattern to a variety of insults. It is a reaction pattern, not a disease, and does not suffice for a diagnosis.

#### Clinical Features

Eosinophilic Ulcer (EU) - This indolent erosive lesion occurs on the upper lip and hard palate. Similar lesions occurring concurrently on the commissures of the lips, gums, palate, pharynx, tongue and chin are eosinophilic granulomas. Regional lymphadenopathy may



a) Eosinophilic ulcer (indolent ulcer) eroding upper lip. Also note two lesions (eosinophilic granulomas) on anterior tongue. Cause - Mosquito bite hypersensitivity.



b) Eosinophilic ulcer hard palate. These lesions may erode a palatine artery with lethal consequences.

occur. Females may be predisposed. The lesions are associated with excessive licking, occasionally starting adjacent to the canine teeth. Lesions on the upper palate may erode small palatine arteries leading to life threatening haemorrhage, most of which is swallowed by the cat, thus remaining inapparent to the owner.

**ITS ON AGAIN!**

**YOU KNOW HOW TO DO  
IT!**

**SO WHY NOT TAKE  
ADVANTAGE?**

Dermcare Club 1 on 12 bonus offer runs from  
Sept 2nd 2002 - 28th of March 2003.

## Goodbye & Goodluck to a valued Dermcare Family Member



Ian Fontaine has been with Dermcare since 1996 consulting in all matters Dermcare. You may have been harrassed about the footy or he may have even washed dogs at your open day. Perhaps he just called in with some cake and samples. Farewell Ian and Good luck in the future, I have a feeling that NSW hasn't seen the last of you.

Pictured from left; Max Fontaine, Roff Fontaine and Ian Fontaine.

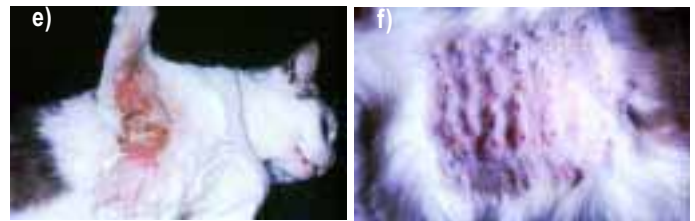
Anyone interested in applying for the NSW representative position please forward your Resume to Dermcare-Vet.



c) Ulcerated eosinophilic plaque due to food hypersensitivity to sheep meat.  
d) Food allergic cat after lesion resolution' and then re-challenged with sheep meat. Note previous lesions healed but new similiar lesion proximal to hock.

**Eosinophilic Plaque (EP)** - These lesions are raised, ulcerated, erythematous and hairless, varying from small poorly delineated lesions to large demarcated plaques. The skin of the lower abdomen, groins, inner thigh, necks and interdigital areas is mainly involved. Lesions are associated with incessant chewing, licking and scratching.

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e) Eosinophilic plaque occurring each Summer & Autumn only  
f) Intradermal allergy test of cat in (e). Cat was atopic with reactions to summer grasses and weed pollens and biting insects.

**Linear Granuloma (LG)** - Raised linear, pink elevation with intact epidermis and variable alopecia is the archetypal form, but others with identical histology occur. Characteristically this classic linear form occurs in young (6 months to 1 year) related cats, is asymptomatic and can spontaneously regress. The most clinically significant form occurs in the mouth as an ulcerated, proliferative lesion on the tongue and at the jaw fornix. It is difficult to treat and does not self-resolve with out identifying and removing the cause. Mouth lesions have whitish foci of necrotic collagen and can cause dysphagia. Another variant is a round, raised, non-ulcerated alopecic symptomless variant on the ventral anterior chin. These latter two variants have not been noted to be age specific.

### The Mosquito Bite Hypersensitivity Variant

This disease is characterized by papular eruptions, erosions, crusting and depigmentation of the skin over the dorsal muzzle, papular crusted eruptions on the pinnae and erosive alopecic cutaneous lesions. The pads may be swollen with fissuring and scaling. There is a peripheral eosinophilic lymphadenopathy and mild pyrexia. Cats of varying ages and coat colors are affected. The disease occurs during the spring and summer when factors favor insect breeding. Thus symptoms tend to occur in summer and resolve in winter. The histological lesions include all the features of the previously described classical forms of the eosinophilic granuloma complex. Interestingly this form is now known



g) Linear granuloma on Posterior thigh of 8 month old female.  
h) Two Eosinophilic granulomas left and right posterior ramis oral cavity due to mosquito bite allergy.

to be a hypersensitivity reaction to a mosquito bite. The author along with Dr Greg Burton have seen oral granulomas, cutaneous plaques and eosinophilic keratitis with mosquito bite allergy even in the absence of typical papules and scale on the ears and feet. All such lesions resolved upon housing the animal within insect proof areas.



i) Mosquito bite hypersensitivity induced papules and crusts on ears and eosinophilic plaque on dorsal carpi and crusted ulceration of nose bridge.

j) Foot pad depigmentation and hyperkeratization caused by mosquito bite hypersensitivity.

k) Mosquito biting the nose of a cat



## Pathophysiology

Cats develop systemic hypersensitivity reaction to many allergens, particularly insect bite allergens, pollens and other environmental allergens and food items. Certainly mosquito bite allergy is an IgE mediated systemic reaction, with not only cutaneous papules and generalized erythema but also fever and lymphopathy.

All allergic skin diseases generate pruritus of the skin and buccal cavity. Cats do not scratch as much as lick persistently and sometimes pluck or pull hair out. The cat's tongue has filiform papillae that are hard and barbed. Consequently

## HYDROBATH TIP

If you prefer Dermcare Natural Shampoo in your hydrobath. Then a little goes a long way. Two Squirts from a 5L pump (14mL) in the average size tank is enough to clean a 25 kg dog. That's over 350 baths from one 5L pack at a cost of approximately 20c a bath.



licking causes destruction of tissue while relieving pruritus. Grossly this appears as an exophytic ulcer with the characteristic white calcified necrobiotic collagen in the centre. Even after eliminating the inciting cause the repair of damaged collagen and skin still takes time. At this stage any complication such as secondary infection, further chemical or mechanical irritation or allergen stimulus would exacerbate the process.

## AETIOLOGIES

Causative aetiologies associated with the eosinophilic granuloma complex lesions.

### Allergies

- Atopy
- Flea bite allergy
- Mosquito bite allergy
- Food allergy
- Intestinal parasite allergy

### Chemical

- Contact irritant reactions (Surgical site preparation antiseptic)
- Insect parts (eggs) foreign body reaction
- Infections with presumptive allergy

### Genetic

- Colony of cats specifically bred @ Davis University

### Idiopathic

#### Parasite irritation

- Cheyletiellosis
- Notoedres
- Otodectes

## Diagnosis

The evaluation of a cat with an eosinophilic granuloma complex lesion, whether indolent ulcer, oral or linear collagenolytic granuloma or plaque, requires the same database and laboratory testing. There are two factors making identification of the causative etiology difficult in the cat. Cats will often continue licking at lesions even when the cause is removed. This could be a behavioural effect or more likely persistence of pruritus induced by the trauma of licking, secondary bacterial infections and damaged tissue. Historic and physical clues that suggest an allergen basis are seasonal development of lesions, associated signs of pruritus including overgrooming, patchy alopecia and a papular crusted dermatitis or erythema. Some animals will show face, ear and periocular oedema and

## Miliary dermatitis in the cat or Papular-crusted dermatitis

erythema. Cytology of the lesion surface and biopsy will reveal eosinophils, and mast cells. Probably the most useful information gained from histological assessment is that it confirms a collagenolytic granuloma; for eosinophilic plaques and indolent ulcers it is of minimal value. However many of the differential diagnoses are easily identified and thus eliminated by histological assessment. Conduct a simple flea elimination trial and food elimination diet. If neither result in improvement of the lip and associated cutaneous signs then an intradermal skin allergy test will identify the cause in most cases. It is necessary in some cases to hospitalise with isolation in a flea and insect free environment, administer systemic antibiotics and undertake an elimination diet. This may settle the disease and the cat is then sequentially re-challenged with suspected causes.

### Treatment

Treatment is often limited to anti-inflammatory drugs with out identification and removal of the etiological cause, consequently high doses are needed to get even a partial response.

Etiological treatment will reduce the frequency of relapse and can even eliminate the need for anti-inflammatory drugs or at the least lower the doses needed. Etiological based treatment requires draconian flea control in all in-contact animals, a strict elimination diet for food intolerant cats and avoidance of environmental allergens if possible or alternatively immunotherapy.

Corticosteroids are most widely used in first line treatment as injectable methylprednisolone acetate (4mg/kg each 3 weeks for 3 doses at a maximum) or oral prednisolone (1-3 mg/kg SID until resolution then eq 48hrs).

Antibiotics such as Clavulanic Acid, potentiated Amoxycillin (12.5mg/kg BID) or Doxycycline (10mg/kg SID) should be given initially in all cases. Antibiotics like Doxycycline have anti-inflammatory actions that may help in addition to the antimicrobial action.

Megestrol Acetate is used in some intractable forms. It has several side effects (diabetes mellitus, mammary hyperplasia, acromegaly pyometra, behavioral disorders and hyperadrenocortism) that make it less desirable in the cat.

Cyclosporin (5mg SID) given orally is useful in cortisone resistant cases. Continue until complete resolution then reduce to EOD. Minimal side effects are seen.

Other medications that can be used with corticosteroids are proposed; these include Chlorambucil (0.1 to 0.2 mg/kg each 2 days) and cryotherapy (intramuscular aurothioglucose 1mg/kg) each week until remission then monthly.

### References

- Mason KV, Evans AG: Mosquito bite-caused eosinophilic dermatitis in cats. J Am Vet Med Assoc 198;2086-2088, 1991.
- Mason K V and G Burton Eosinophilic Granuloma Complex in A PRATICAL GUIDE TO FELINE DERMATOLOGY. Ed E GUAGUERE AND P PRELAUND. MERIAL 1999, CHAPTER 12.

This is a collection of diseases that causes diffuse truncal dermatitis characterised as looking and feeling like millet seeds on the cat's skin. The correct dermatological description is dermatitis with primary lesions of papules that crust over.

The diseases in this category are flea allergy, food allergy and occasionally atopy, however most will have a secondary bacterial folliculitis as well. Parasitic infestations like demodexosis, cheyletiellosis and lice will also develop papules-crusts. The most dangerous disease to rule out is dermatophytosis. Thus a logical approach would be to test for dermatophytes with a new toothbrush combed through the coat and then sent for culture, to then eliminate all fleas and surface parasites and treat with antibiotics. If no better and the culture is negative then an allergy test would be the next step.



Fig 1) Eosinophilic lip ulcer in cat with flea allergy causing typical papular crusted dermatitis (miliary dermatitis).

## FuNGI implicated in Allergic Disease



Except under very controlled conditions, outdoor fungal spores will enter homes and show measurable levels indoors. Warm, humid and damp conditions allow these spores to proliferate rapidly. Use of airconditioning and dehumidifiers are two major methods of limiting fungal growth. Pets allergic to Fungi should be

kept out of bathrooms, laundry rooms, crawl spaces or any other habitats which promote fungal growth.

Excerpt from Greer Laboratories Poster