

Feline Health Topics

for veterinarians

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The Greasy, Flaky, or Crusty Cat

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Visible flakes or grease, be they localized or generalized, indicate that the normal process of keratinization has been disrupted. If the cause of the disruption can be found and corrected, the problem will disappear without additional treatment in approximately 45 days.

PRIMARY KERATINIZATION DISORDERS

Generalized Disease

Unlike in the dog where primary seborrhea is fairly common, generalized primary seborrhea is rare in the

cat. It is recognized most commonly in Persian cats as a hereditary disease with an autosomal recessive mode of inheritance. Signs are present at or near birth; some kittens are more severely affected than others. The coat is greasy and unmanageable, and ceruminous otitis and multiple comedones are present. The diagnosis of primary seborrhea is made by history and skin biopsy. There is no cure for the underlying skin disease, but frequent bathing is helpful in maintaining a more normal coat. The effectiveness of retinoids is unproven.

Localized Disease

Feline Acne: A common problem, feline acne can be a one-time disorder, a chronically relapsing condition, or a permanent problem. Comedones develop around the lips and on the chin. Simple cases may require no treatment, but if they do, the response to topical treatment is usually satisfactory. Cats with more severe or resistant disease should be examined carefully for secondary bacterial or *Malassezia* infection. Fatty acid supplements (e.g., DermCaps®) can be of some benefit in chronic cases. Treatment with retinoids shows promise but very few cases have been reported.

Stud Tail: Stud tail, an accumulation of keratosebaceous debris along the entire dorsal surface of the tail, is an uncommon problem seen most commonly in intact males but also in neutered males and altered and unaltered females. Castration does not resolve the problem but may slow its progression. Frequent cleaning with a degreasing shampoo (e.g.,

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those that contain benzoyl peroxide) helps keep the condition under control.

SECONDARY KERATINIZATION DISORDERS

Endocrine Disease

Hyperthyroidism, diabetes mellitus, and hyperadrenocorticism are endocrine disorders that may affect normal skin keratinization. Improvement in the skin condition accompanies correction of the underlying disorder.

Infectious Disease

Generalized disease as a result of *Microsporum canis* infection is uncommon except in longhaired kittens. When generalized disease is recognized, especially in an adult cat, a search for some underlying cause should be undertaken.

Malassezia infection is a well known cause of skin disease in the dog. Infection occurs in cats as well, but so few cases have been described that details on underlying causes or treatments are sketchy.

Parasitic Disease

Seborrheic demodicosis is usually caused by *Demodex*

felis; infection indicates that the cat has some serious underlying immunosuppressive disease (e.g., FIV infection). Diagnosis is made by microscopic examination of skin scrapings.

The incidence of *Cheyletiella* infestation appears to have decreased in recent years, probably as a result of increased use of flea control products that kill this mite as well. With the popularity of Program® and Advantage®, the incidence may increase again. *Cheyletiellosis* has a caudodorsal distribution with variable pruritus. Diagnosis is difficult, especially when the cat is itchy. The best way to demonstrate the mite is with a flea comb or vacuum cleaner; the mass of hair and scale that is collected is then evaluated by means of flotation techniques. At best, these techniques yield positive results in 65% of infected cats. The ultimate test is response to treatment. Ivermectin (0.3 mg/kg q10-14d) receives widest use. Use of a topical insecticide at the first treatment can accelerate the response in a very itchy cat.

Lice and fur mites cause scaly lesions but their size (lice) or numbers (fur mites) make diagnosis straightforward. Ectopic ear mites can cause disease on the body and are difficult to find in this location. However, these cats invariably have otitis externa in addition to the disease present on other parts of the body. Ectopic infestation is best treated with topical insecticides or ivermectin.

Metabolic Disorders

Cats with liver or pancreatic disease usually will develop a generalized greasy coat, generally occurring late in the course of the disease. The prognosis for these cats' skin disease is dependent on the outcome of treatment of the underlying condition.

Environmental Disorders

Low humidity will dry a cat's coat. This is especially true for cats that are heavy groomers, because with grooming, water is put on the hair and skin but will evaporate rapidly when the relative humidity is below 40%. If one cat in a multiple cat household is

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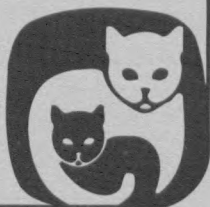
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dryer than the others, it would be appropriate to determine if the cat has an underlying skin condition that is increasing its grooming. If the flakiness is strictly due to low humidity, topical skin moisturizers will work, but most cats fail to tolerate prolonged use.

THE CRUSTY CAT

Miliary Dermatitis

The most common crusting skin disorder of the cat is miliary dermatitis. In the early era of feline dermatology, miliary dermatitis was thought to be a specific disease entity. Today, we know that miliary dermatitis is a reaction pattern in the cat and not a specific disease. Diseases seen within this reaction pattern include:

Bacterial folliculitis	Dermatophytosis	Otodectes
Cheyletiella infestation	Feline scabies	Pediculosis
Demodicosis	Trombiculosis	Fur mite infestation
Nutritional deficiency	Flea allergy	Atopy
Food allergy	Insect allergy	Pemphigus
Lupus erythematosus	Drug reaction	EM/TEN
Mast cell disease	Idiopathic	

With the high quality of today's cat foods, nutritional causes are very rare but all other causes are seen with some regularity. The history, distribution of the lesions, and exudative cytology helps trim the list but rarely leaves only one disease to investigate. By systematic elimination of the appropriate differentials, the primary disease will be found and the number of idiopathic cases should be nonexistent.

Immune-mediated Disorders

Immune-mediated skin diseases are far less common in the cat than in the dog. True autoimmune diseases—disorders where the body attacks normal self—appear to be less frequent than immune-mediated disorders where the body is attacking altered self, or the skin is accidentally destroyed in an immune complex disease. In both disease categories, skin lesions

(e.g., pustules, erosions, or ulcers) occur, but are rarely recognized because they are hidden by the cat's fur. As the lesions mature, crusting occurs. The crust by itself offers few diagnostic clues, but the distribution of the lesions and exudative cytology of a freshly crusted lesion helps define the disease process. Since these disorders are very serious, the tentative diagnosis should be confirmed by skin biopsy and appropriate blood testing.

True Autoimmune Diseases

In cats, the most common true autoimmune disease is pemphigus foliaceus. Lesions are typically generalized, but those on the face, ears, and feet are most noticeable. Careful clipping usually will uncover unnoticed lesions. Treatment is life-long and involves the use of corticosteroids (e.g., prednisolone at 4.4 mg/kg/day, or dexamethasone at 0.4 mg/kg/day), cytotoxic agents (e.g., chlorambucil at 2-6 mg/m² BSA q24h), or gold injections. Antibiotics are needed at the onset of treatment and must be considered at any "flair" in the pemphigus. The lesions of bacterial folliculitis are impossible to differentiate from those of pemphigus in the cat receiving corticosteroids.

Immune-mediated Diseases

With the exception of systemic lupus erythematosus, most immune-mediated disorders in cats are curable. If the antigen triggering the reaction can be found and eliminated, the disease progression should halt and the cat's need for immunosuppressive treatments should be eliminated or short-lived.

Drug reactions are the most common immune-mediated disorders in cats, and can occur with any drug. Reactions can occur any time after an initial period of sensitization (7 to 14 days). They usually occur within the first 3 weeks of drug administration; if the drug was used before, reactions can appear very quickly. If the cat is receiving multiple drugs, all are suspect, but the last drug incorporated is the most

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suspect. Skin biopsy often confirms the diagnosis, or at least eliminates other potential causes. Spontaneous improvement within 14 days after drug withdrawal confirms the diagnosis. Rechallenge at any point in the cat's life will reproduce the skin eruptions, but they may take on a different appearance and could even prove to be fatal.

Small vessel vasculitis is uncommon in the cat and primary vasculitis is virtually unheard of. Circulating immune complexes lodge in small vessels which are subject to environmental trauma (nose, ears, oral cavity, toes, tail, etc.) and either cause epidermal starvation (scaly/crusty lesions) or sudden epidermal death (ulcers). The diagnosis of vasculitis is fairly easy but the identification of its cause is far from simple. Recognized immune-complex diseases in the cat include drug reaction, systemic lupus erythematosus, vaccine reactions, and FIP infection. The list is much longer in the dog. Any disorder which has a persistent low level of antigen release can cause a vasculitis. A complete medical evaluation is mandated.

EM/TEN: Erythema multiforme (EM) and toxic epidermal necrolysis (TEN) are a result of epidermal cell death (apoptosis). In EM, the death is slower and less complete while it is sudden and complete in TEN. TEN can be considered the equivalent of a third degree burn and has a very poor prognosis if large areas are involved. The most common cause of EM/TEN in the cat is drug reaction. EM in the cat has also been seen with food allergy.

Neoplasia

Cutaneous neoplasia is far less common in cats than in dogs and when it occurs, the lesions are typically nodular. Cutaneous lymphoma and Bowen's disease are the exceptions. Diagnosis is by biopsy.

Some (all?) cases of Bowen's disease are associated with papillomavirus infection. Old cats are most commonly affected; lesions are variable in appearance and usually occur on the head, front limbs, and thorax. Lesions are caused by squamous cell carci-

noma which remains in the epidermis for long periods of time. Since the virus appears to remain with the cat for the rest of its life, treatment is aimed at curing the lesion and not the disease. Surgery and pliseotherapy can be effective.

In cats, most cases of cutaneous lymphoma are associated with extension or metastasis of a deeper tumor. Rarely, cats develop "primary" T-cell lymphoma which stays in the skin for long periods of time. If the lesions are asymptomatic, choosing not to treat appears to be an acceptable option.

Mast cell "tumors" are common in the cat. Many cases, even those with multiple lesions, have a benign clinical course and may represent mast cell hyperplasia rather than neoplasia. The literature suggests that the histiocytic version can also have a benign course. However, some cases (especially those in old cats?) are very malignant.

Dr. William H. Miller is a professor of Clinical Sciences at Cornell's College of Veterinary Medicine.

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