

Some Skin Problems in Cats (A Review)

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Abstract: Cats are susceptible to skin infections, parasites, allergies, and many other conditions. Common signs of skin disease in cats include, excessive scratching, licking, or chewing of the fur, redness, and swelling of the skin, Loss of fur, scabby, scaly, or flaky skin, and swellings or bumps on the skin. Figuring out the cause of skin disease in cats can be difficult, although in some cases the cause is more easily determined. Careful consideration of the history of the illness, a physical examination, the results of diagnostic tests, and, in some cases, response to treatment or modification of diet or lifestyle is important. A careful physical examination is necessary to evaluate the nature and pattern of skin abnormalities (including loss of hair, redness, and presence of parasites), that may suggest a cause for the skin disease.

Date of Submission: 10-08-2021

Date of Acceptance: 25-08-2021

I. Introduction

The skin is the largest organ in a cat's body, comprising up to ¼ of its body weight. This amazing organ provides a protective barrier to the environment and regulates body temperature, among other important functions. The skin is composed of the epidermis (the top layer that provides protection), the dermis (the supportive layer underneath the epidermis that provides nourishment to the epidermis), the subcutis (the innermost layer that contains protective and insulating muscles and fat), and various appendages. The appendages include claws, sebaceous glands that lubricate the skin and hair, and tiny muscles called arrector pili that can make the hair stand on end(1).

II. Ringworm

Ringworm(Dermatophytosis), usually caused by *Microsporum canis*, is the most common fungal infection in cats worldwide, and one of the most important infectious skin diseases in this species. Many adult cats are asymptomatic carriers. Severe clinical signs are seen mostly in kittens or immunosuppressed adults. Poor hygiene is a predisposing factor, and the disease may be endemic in shelters or catteries. Humans may be easily infected and develop a similar skin disease(1). **Ringworm** is a type of fungus that affects cats, It may cause circular lesions on a cat's head, ears, and forelimbs as well as any other part of the body. The skin around these lesions is often flaky and bald. Ringworm can spread to other pets in the home, as well as to people. However, it could also be in the form of circular alopecia, desquamation, and sometimes an erythematous margin around central healing ('ringworm') are typical(2).

Wood's lamp examination and microscopic detection of arthrospores on hairs are simple methods to confirm *M canis* infection, However, their sensitivity could be relatively low. The gold standard for detection is culture on Sabouraud agar of hairs and scales collected from new lesions.

Management:

In shelters and catteries eradication is difficult. Essential is a combination of systemic and topical treatments, (shampoos, ointments, or oral medications).

maintained for several weeks. For systemic therapy, itraconazole is the drug of choice, Terbinafine an alternative. Recommended topical treatment is repeated body rinse with an enilconazole solution or miconazole with or without chlorhexidine. In catteries/shelters, medication must be accompanied by intensive decontamination of the environment(1).



Ringworm: Circular alopecia, desquamation, and sometimes an erythematous margin around central



Diagnosis by wood lamp

ALLERGIC DERMATITIS

Feline allergic skin disease presents a unique set of challenges to the veterinary practitioner.

Cats can have allergic reactions to grooming products, food, and environmental irritants, such as pollen or flea bites. Scratching the head or neck is a common sign of food allergies. Symptoms of other allergies include chewing on the paws or base of the tail or scratching the ears. Allergies can also cause hair loss or skin lesions anywhere on the body, including the belly. There are a variety of treatments to soothe itchy skin associated with allergies, but avoiding exposure to the irritants is the best strategy(3).

Frequently, the allergic feline patient will present with at least one of the four common cutaneous reaction patterns indicative of pruritus and inflammation, head/neck/pinnal pruritus with excoriations, self-induced alopecia, miliary dermatitis, and/or eosinophilic lesions (including eosinophilic plaques, eosinophilic granulomas, and indolent ulcers(4).

Hypersensitivity skin diseases in cats fall into three main categories, however, the nomenclature is a bit different. Flea (and other insect bites) bite hypersensitivity and food-induced hypersensitivity dermatitis

(cutaneous adverse food reaction) are similar between dogs and cats, but atopic dermatitis is where the two species separate(5).



Feline allergic dermatitis of different causes

**FELINE ALOPECIA
(Shedding and Hair Loss)**

Alopecia is a term used to describe hair loss, either complete bald spots, patchy fur or thinning of the fur. Alopecia develops in one of two ways, either your cat pulls their fur out or it falls out. Common causes include fleas, stress, and allergies(6).

Depending on what is causing cat alopecia, The following symptoms may notice,

- Red skin
- Bumps or scabs on the skin
- Scaly, dry skin
- Itchiness
- Over-grooming (licking and chewing more than usual)
- Losing whiskers
- Patches of dark skin
- Lethargy (sleeping more than usual)
- Drinking more than usual
- Eating more or less than usual

Causes of alopecia

- Fleas
- Allergies
- Ringworm
- Bacterial skin infections
- Feline eosinophilic granuloma complex
- Inherited
- Alopecia around wounds
- Over-grooming
- Hormone disease
- Psychogenic alopecia

Treatment depends entirely on what is causing your cat's hair loss



FELINE ECTO-PARASITES

Fleas:-

A cat who scratches, chews their skin, or seems restless could mean that they have fleas. You can ease their itch.

Fleas (*scientific name: Ctenocephalides felis*) are a very common problem. However, their droppings could be found in a cat's coat especially where the fur is pale. Other signs of a flea infestation are persistent scratching, crusty skin lesions, and thinning hair above the base of the tail. To eradicate fleas, you'll need to treat the cat as well as the furniture, bedding, and rugs. Always remember that treating all pets in the home is necessary for whatever plan you use to be effective (7).

Some common active ingredients and brands include:

- Fipronil (Frontline Plus)
- Imidacloprid (Advantage)
- Selamectin (Stronghold/Revolution)
- Fluralaner (Bravecto)



Ear Mites:-

Ear mites are tiny parasites that are drawn to the wax and oils inside a cat's ear. As they feed, they cause inflammation that can lead to a serious skin or ear infection.(1)

Clinical signs of ear mites

- Shaking their head or scratching their ears excessively
- Having red and inflamed ears caused by extra wax and irritation
- Producing a black, dry ear discharge which can sometimes let off a bad smell.

Note: The vet may be able to see the mites during an ear exam or they may need to take a swab and look at it under a microscope to confirm this. They will then provide your cat with the correct treatment.



Red and inflamed ears caused by extra wax and irritation producing a black, dry ear discharge



Feline ear mite

Treatment

Ear mites in cats are a treatable condition. Both systemic and topical treatments are available, including **systemic selamectin, moxidectin, ivermectin, and milbemycin**. The veterinarian should clean the cat's ears first with an appropriate cleaning solution(8).

Feline Lice (Pediculosis):-

Lice are parasites that feed on dry skin. They are commonly found on young, neglected cats and often go unnoticed. Large infestations can lead to scratching, restlessness, unusual coat appearance, and hair loss. Like mites, lice can be treated with a topical solution. Because lice are species-specific, you do not need to worry about getting lice from your cat(9).

Most lice are of the biting or chewing type, including the cat louse (*Felicola subrostrata*). Lice are most often seen on older, longhaired cats that are no longer able to groom themselves. However, infestations are usually seen on debilitated, feral, stray, or shelter animals.



Feline lice

In addition to killing the lice on your cat, you will want to be sure that lice are not infesting your cat's bedding, collar, grooming tools (including brushes or combs), and other similar objects in your cat's environment. Bedding should be washed frequently in hot, soapy water or treated with an appropriate spray until the infestation is controlled. Careful cleaning and inspection of these objects can help provide your pet with continued relief from the irritation caused by lice(1).

Feline acne (chin dermatitis)

Feline chin dermatitis can be a symptom of underlying infection (fungal/Demodex/bacterial/viral), contact hypersensitivity to plastic or stainless steel, or be related to the large glands on the chin which, when hair follicles and oil gland ducts become plugged and cause rupture of the glands, can create a severe inflammatory reaction due to the oils released under the skin(9).



Any cat can develop feline acne, infectious causes of chin dermatitis such as feline Demodex are more common in immune-suppressed cats, and allergic cats can develop chin dermatitis due to scratching and rubbing of the chin.

Clinical Signs:

Chin dermatitis can show mild symptoms such as patchy hair loss, small crusts, and plugged hair follicles (comedones) with black flecks of oily debris, in severe cases the plugged follicles can rupture, creating chin swelling, inflammation, pain, and drainage(10).

Treatment: It was mentioned by Starkey and Stewart(9)

1-Remove plastic and stainless steel bowls and use ceramic bowls.

2-Treatment of milder cases of feline acne can involve periodic use of mild antimicrobial or salicylic acid wipes and/or antibiotics plus steroid-containing ointments.

3-Benzoyl peroxide shampoos/gels may be helpful to reduce follicular plugging, but can be very irritating in some cats and should be used with caution.

4-Topical retinoid creams/gels may be helpful in some cases. In severe cases, systemic antibiotics plus steroids are used.

FELINE SPOROTRICHOSIS

Sporotrichosis is an important subcutaneous fungal infection of humans and animals in some endemic tropical and subtropical areas. Among domestic species, cats are the most frequently infected. The primary mode of transmission is traumatic inoculation of fungal conidia from plants and soil. Contact with infected cats is the major mode of transmission to humans(1).

Most cases in cats are cutaneous, presenting as multiple ulcerated nodules and draining tracts in the skin(It produces small, hard skin lesions that may leak fluid). Lymphadenopathy, respiratory signs, and systemic dissemination may also occur.



Diagnosis: Is based on fungal detection by cytology and/or histology, and confirmation by culture.

Treatment: It consists of at least 2 months' systemic antifungal therapy, with itraconazole as the first-choice agent. The prognosis is favorable provided there is good owner compliance and adverse drug effects do not occur.

Stud Tail (*Tail gland hyperplasia*)

Stud tail is caused by overactivity of the sebaceous glands near the rear of the back and on the tail, which results in an overabundance of sebum or skin oil in that area. It is believed that the most common cause of this over-activity is the high level of hormones that are secreted when unneutered male cats experience puberty, their transition to being a stud, or a male capable of breeding. For reasons that are not fully understood, in very rare cases, some neutered males, unaltered females, and spayed females experience stud tail as well(12, 13).



Clinical signs

- Greasy fur near the rear of the back and on the tail
- In cats with light-colored fur, yellowing of the fur near or on the tail
- Loss of hair on or near the tail
- Comedones, or blackheads, on or near the tail
- Raw, red, and/or swollen skin on or near the tail
- Red bumps on or near the tail
- Pus on or near the tail

Treatment

Treatment could be based on the severity of the case, If the affected cat is an unneutered male, the veterinarian will likely suggest castrating the cat to lower the hormone levels. In addition to castration for unaltered males, the vet will prescribe the following:

- Wash the affected area with a degreasing shampoo and/or antibacterial shampoo, Apply topical ointment such as benzoyl peroxide, then, Use a buster collar to prevent self-trauma
- Steroids to reduce swelling
- Antibiotics to prevent secondary infection

FELINE EOSINOPHILIC GRANULOMA

Feline eosinophilic granuloma complex (EGC). It comprises a group of reaction patterns that affects the skin, oral cavity, and mucocutaneous junctions of cats. It can be caused by a variety of factors but is most commonly thought to be the cutaneous manifestation of feline allergic disease. The three primary clinical lesions of the disease include indolent (also referred to as eosinophilic or rodent) ulcer, eosinophilic plaque, and eosinophilic granuloma(14).

Diseased cat has raised ulcers or lesions on the nose or lips, they may be having a type of allergic reaction. This reaction can occur anywhere on the body but is most common on the face, pads of the feet, and thighs(15). The most important causes are non-specific allergies, Allergic hypersensitivity reaction, Food allergy, Insects, and Genetic predisposition.(14).



Treatment

- Anti-inflammatory agents
- Corticosteroids are the most common treatment to control the symptoms of the eosinophilic granuloma complex.
- Anti-histamines, which may help in some cases
- Immunosuppressive drugs such as ciclosporin or chlorambucil

FELINE COMPULSIVE GROOMING

The cause for over-grooming may be behavioral or medical. Behavioral over-grooming, otherwise known as “psychogenic alopecia,” is a form of stress relief for many cats. Medical causes that may lead a cat to over-groom are usually those that make the cat feel itchy. One of the most common causes is an allergy(16).



Signs

If the cat is over-grooming, you'll see a line or stripe of very short stubble that looks like a buzz-cut. It can occur anywhere on the cat's body but is most common on a foreleg, an inner thigh, or the belly. If the behavior is severe, the skin underneath the fur may become damaged, appearing red, or sore(17).

Treatment

The key to managing excessive grooming is to first address the underlying cause. Remove the cause and any stress. Moreover, Infections or allergies can be treated with the appropriate medications, which (depending on the cause) may include antibiotics, antihistamines, and/or anti-inflammatory drugs.

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Kamal M. Alsaad, et. al. "Some Skin Problems in Cats (A Review)." *IOSR Journal of Agriculture and Veterinary Science (IOSR-JAVS)*, 14(8), 2021, pp. 37-45.