

Most Cats Would Agree, Bald Is Not Beautiful

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The Feline Hair Follicle

Cats have compound hair follicles. In general, there is a cluster of two to five primary hairs surrounded by groups of smaller secondary hairs. One primary hair is the largest (central) surrounded by groups of small primary hairs (lateral primary hairs). Each primary hair has a sebaceous gland, arrector pili muscle, sweat gland. Secondary hairs may only have a sebaceous gland. Five to 20 secondary hairs may accompany each primary hair. The two most common specialized hairs are sinus hairs (whiskers) and tylotrich hairs.

Skin Biopsy: When, Where, and How

When-Timing in the Diagnostic Approach: In general, the longer a disease process is present the more likely, that the classic findings associated with the underlying disease will be obscured by inflammatory changes. Systemic drugs can and do affect cellular infiltrates in skin biopsy specimens. No studies have been conducted on appropriate wash out periods; use the same washout periods for skin biopsy that are used for intradermal skin testing. If topical therapy is being used, allow for at least a one-week washout period.

Where-Lesion Selection: Skin biopsy specimens from cats with alopecia should include as many representative samples as possible, including a "normal" site. The latter will allow for comparison of the cellular infiltrate and hair follicle stages between normal and abnormal. Avoid areas of with significant trauma; look for primary lesions. The skin should not be prepped in any way prior to the sampling.

How-Getting a Better Skin Biopsy: Skin biopsy specimens should be obtained under heavy sedation and concurrent local anaesthesia. The skin should not be prepped to avoid losing important surface finding and or prevent introduction of artefacts. Skin biopsy specimens shrink 50% when placed in formalin so take at least a 6 mm, or better 8 mm skin biopsy sample. The use of a new skin biopsy punch is recommended; this will avoid the introduction of shear. Harvest the biopsy with care to avoid introduction of crush artefact. The skin of cats is thin and should be placed between foam in a biopsy cartridge or on a wooden tongue depressor, (this can cause dehydration and shrinkage). It is very important to allow the specimen to fix for at least 24 hours before being sectioned by the pathologist. If it is necessary to submit all of the specimens in one containing making it difficult to label the specimens, biopsy cartridges are strongly recommended because important information can be written on the flattened front. If these are not available, a small part of the biopsy can be marked with a black sharpie and then a notation made for the pathologist. It is very important to take a large enough specimen so that many hair follicles are present and to leave the hairs long enough that the pathologist can see them grossly. If the hairs cannot be seen at the time of bisection, the specimen may not be oriented properly resulting in a "swiss cheese" cut versus a cut parallel to the hair follicles.

Causes of Alopecia in Cats

This seminar will focus on the work up of cats with inflammatory and non-inflammatory alopecia and discuss common and uncommon causes in each category.

The Otherwise Healthy Cat

The most important thing to determine when presented with a 'bald' cat is whether or not the cat is pruritic. If the cat is otherwise healthy, the first step in the work up of a "bald cat" is to look for any evidence of self-trauma. As most veterinarians know, cats can be very secretive in their grooming habits and owners may often miss clinical itch behaviours.

Helpful First Step Diagnostic Tests:

Ear swabs for mites and for cytology

Skin cytology of affected area (clear acetate tape and/or glass slide)

Skin scraping with skin scraping spatula AND hair trichogram-examine for mites, hair shaft abnormalities and for any signs of dermatophytosis

Response to treatment trial with fluralaner to rule out ectoparasites

NOT helpful at first visit in otherwise healthy cat

Food trial-food allergy is an uncommon cause of pruritus in cats and is not indicated at first presentation

Routine laboratory work: serum chemistry, urinalysis, complete blood count (except blood smear looking for eosinophilia)

Skin biopsy

Serum allergy testing or intradermal testing

Cat with Dramatic Clinical Signs and/ or Signs of Systemic Illness

Ear swabs for mites and for cytology

Skin cytology of affected area (clear acetate tape and/or glass slide)

Skin scraping with skin scraping spatula AND hair trichogram-examine for mites, hair shaft abnormalities and for any signs of dermatophytosis

Skin biopsy to rule out neoplasia or other infectious diseases

Routine laboratory work: serum chemistry panel, urinalysis, complete blood count, T4

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