

## Case study: Nasal ulceration and crusting in a domestic short hair

by Duncan Graham, Animal Dermatology NZ, Nelson

Ned Dyer is a two-year eight-month-old neutered male tabby domestic short-haired cat weighing 6kg. In September 2010, he developed a small crusted raised area on the haired nasal dorsum.

The lesion slowly progressed despite a variety of treatments (Figure 1), which included topical and long-acting corticosteroids, until it was biopsied in January 2011. The biopsy was not definitive, but contained an infiltrate of eosinophils. This produced the differential diagnoses of mosquito bite hypersensitivity and herpes-induced ulceration. However, there were cords of neoplastic squamous cells that raised the suspicion of underlying squamous cell carcinoma (SSC), or they simply could have been exuberant squamous hyperplasia.



Figure 1: Ned Dyer in December 2010

### Feline herpes virus ulcerative dermatitis

This disease typically targets the dorsal nose but lesions may extend to involve the nasal planum. Some cats will have concurrent ocular or upper respiratory tract signs but others will not. Histologically, the lesion is a necrotising, ulcerative dermatitis most often with a concurrent marked eosinophilic inflammation. The eosinophilic inflammation and the clinical appearance of the lesions make it difficult to differentiate from mosquito bite hypersensitivity. Unless intranuclear viral inclusions can be seen on histology, the diagnosis may not be definitive. Polymerase chain reaction (PCR) has been used to detect the virus within skin

biopsies, and some histologists recommend cutting the samples in half and snap freezing one half for PCR. History can sometimes make the differentiation easier. Lesions that occur in winter, or after a respiratory outbreak in a multi-cat household, or worsen with corticosteroids, are much more likely to be herpes related.

### Feline mosquito bite hypersensitivity

This relatively common disease, seen in areas and seasons when mosquitoes are prevalent, starts as a small papule on the nasal dorsum, progressing to small punctuate areas of alopecia. At this stage, it most closely resembles early actinic lesions. An eruptive, erythematous, often profoundly pruritic lesion may then develop, spreading over the dorsal nose and involving the nasal planum, coalescing with varying degrees of ulceration and exudation (Figure 2). Histopathology is strongly eosinophilic and is indistinguishable from herpes ulcerative dermatitis. There can be pinnal and pad lesions as well. Clinically, the two presentations are very similar at this stage as well. History is needed to differentiate them.



Figure 2: Mosquito bite hypersensitivity in an Abyssinian

### Solar elastosis and fibrosis AKA solar dermatitis

Solar elastosis and fibrosis are histological markers for sun-induced damage; they can

be seen in multiple sun-associated clinical syndromes, including actinic keratosis, actinic comedones and actinic furunculosis. White skin noses and depigmented noses are obviously prone to solar damage. The fibrosis may produce a firm texture to the skin that can be palpable on examination. It has been recommended to delay biopsy until after three weeks of systemic antibiotics. This is true for the nose, as well as the body in general so that solar-induced lesions can be targeted reliably.

Damage from solar radiation can result in sunburn and actinic keratoses in both dogs and cats with a poorly pigmented nasal planum or nasal dorsum. Lesions progress from erythema to crusts to ulceration and destruction of normal nasal planum architecture, just as there is a progression from actinic changes to carcinoma in situ (Bowen's disease) to invasive carcinoma.

### Actinic and squamous cell carcinoma

SCC of the nasal planum is common in the cat but rare in the dog, probably because dog planum are more reliably pigmented. SCC most commonly affects the nasal planum, pinnae and eyelid margins of cats, while the dog is most frequently affected in the caudal abdomen, flank and nail bed. It is a disease of older animals. White-haired cats have 13.4 times the risk of developing SCC than other-coloured cats.

### Progression

At this stage, the original veterinarian had three differentials, none of which fit the presentation and history very well. Although the lesion had occurred during the summer, it had worsened in winter, making mosquito bite hypersensitivity unlikely. A herpes-related lesion seemed unlikely because it had occurred during the summer, there was absolutely no preceding viral respiratory



Figure 3: Ned Dyer in April 2011



Figure 4: The lesion was unresponsive to treatment for *Trichophyton mentagrophytes*



Figure 5: August 2011 – A biopsy was taken after the lesion worsened

disease and Ned is a solo pet. SSC would fit except Ned's nose is well pigmented and haired and he is young. SCC is a disease of middle-aged and older cats. Ned was given an injection of long-acting antibiotic in early February (Figure 3).

In May, a fungal culture was taken from the nose. There was no growth for 2.5 weeks and the referring vet was on the verge of starting antiviral treatment when the culture grew *Trichophyton mentagrophytes*; at last a definitive diagnosis. This fungal infection is relatively common in the terrier breeds due to their propensity to tangle with hedgehogs, but unreported in cats.

Treatment with Griseofulvin was recommended and started. There was no response; indeed a gradual but dramatic worsening occurred and the case was referred (Figure 4).

I questioned the histopathologist, who stuck to his guns that there was no evidence histologically of a fungal infection.

However, because of the positive culture, and the fact that some *Trichophyton* are resistant to Griseofulvin, I decided to treat with Terbinafine with the proviso that if there was no response, the biopsy should be repeated. The lesion worsened and the biopsy was repeated (Figure 5). This time the typical intranuclear inclusion bodies were located, and the diagnosis of herpes-induced ulcerative dermatitis could be made with confidence.

### Treatment

Traditionally, herpes-related lesion treatments have included the subcutaneous administration of alpha interferon (1 million units/m<sup>2</sup>, three times weekly), oral or topical antivirals if available and lysine 250mg to 500mg per cat, one-to-two times daily. Recently, Richard Malik (2010) described using Famciclovir to treat feline herpesvirus type 1 lesions. Using his protocol of 125mg Famvir orally twice daily, we prescribed



Figure 6: Ned after three weeks' treatment with Famciclovir

Famvir 500mg giving ¼ tablet twice daily. This is available from chemists in packs of three for about \$25.00. Figure 6 shows Ned after three weeks' treatment; the ulcerated area has shrunk to one small area on the lower left. The satellite lesion on the right was the site of the final diagnostic biopsy. There is a large scarred region in between. This may or may not regrow hair.

Continued on page 32 ►



**Scrubs, Jackets and Surgical Caps**  
**Value, Quality & Style**  
 Why settle for one when you can have it all!  
**Only \$35 a set** (includes pants and top)  
 Great colour range and 2 styles to choose from

**ORDER ONLINE NOW**  
[www.statscrubs.com](http://www.statscrubs.com)

Australia call **1800 422 888** | New Zealand call **0800 562 867**




# New guidelines for using antibiotics in skin infections

The current guidelines to best practice from the European Dermatology Expert Panel, written in July 2010, are included as an insert with this edition of *Vetscript*, proudly brought to you by Pfizer Animal Health.

The European Dermatology Expert Panel is an independent body convened to assist veterinary clinicians with the implementation of best practice in the field of dermatology. The panel comprises the following leading European dermatology experts: Dr Luc Beco, Dr Eric Guaguère, Dra Carmen Lorente Méndez, Professor Ralf Mueller, Dr Chiara Noli, Dr Tim Nuttall and Dr Margreet Vroom.

These guidelines represent the first output of the expert group, the aim of which is to outline a series of principles for antibiotic use in the management of skin infections.

Responsible use will help minimise the development and spread of antibiotic resistance and preserve the clinical efficacy of these drugs.

Topics covered include:

- diagnosis
- infection and the need for systemic antibiotics
- choice of antibiotics
- duration of treatment
- compliance and adherence
- identifying the underlying cause
- what to do if there is a poor response to treatment

- appendix with coloured images of various skin conditions.

On the back page is a quick quiz and the opportunity to win a copy of Linda Medleau and Keith Hnilica's *Small Animal Dermatology: A Color Atlas and Therapeutic Guide* or one of 20 Cytology Essential Kits.

Pfizer Animal Health is a proud supporter of the European Dermatology Expert Panel with whom it shares and supports the principles of knowledge enhancement, skill development and responsible drug use. ■

## People

## Vetscript discussion forums: Join in!

A month can be a long time to wait when you're itching to respond to something you've read in *Vetscript*. Now you don't have to.

Exclusive to NZVA members on our new-look website there's a place where members can share information and exchange views on all kinds of topics, at [www.nzva.org.nz/forum](http://www.nzva.org.nz/forum). *Vetscript* is joining this new age of social networking by inviting readers to join online discussions in this forum about issues raised in certain articles.

There is one already posted from the November *Vetscript* on tail docking of horses, at [www.nzva.org.nz/forum/tail-docking-horses-whose-interest](http://www.nzva.org.nz/forum/tail-docking-horses-whose-interest)

This month, we've opened a discussion thread on ethical approval of trial work and writing up results (see article and link on page 42 of this issue). Every month from

here on, we'll be opening forums around articles that we think members would like to discuss. And if you'd like to respond online to an article that doesn't have a forum link, email me on [vetscript@vets.org.nz](mailto:vetscript@vets.org.nz) and we'll look at getting a discussion going.

Where a particularly good discussion gets under way online, we'll consider printing a summary of the key points in *Vetscript*.

There are no restrictions on the length of your online contribution – all we ask is that your contributions to a discussion are made in a spirit of mutual respect!

**Phil Stewart, Vetscript Editor**

*Nasal ulceration: continued from page 31*

## Discussion

I am sure many veterinarians have seen these cases. They are seldom easy to differentiate, especially if there is a red herring like the fungal result in this case. We still don't know where that came from. Many times the history, signalment and living situation of the cat can help differentiate between the diseases. That is why giving the histopathologist a good history is so important. However, as in this case, that is not always true. Taking multiple biopsies in the first instance, or if necessary, re-biopsying, can provide a definitive diagnosis. And it is now even more important to get a definitive diagnosis because there is a good treatment for the herpes-induced lesions. Famciclovir is proving a good treatment option, either on its own or with topical cold sore cream (Zovirax). ■

## Acknowledgements

Chris Welland for constant encouragement and Josie Dyer for the photographs.

## Reference

Malik, R (2010) Using famciclovir to treat feline herpesvirus type 1 infections in cats: A story of evolution in feline therapeutics. *The Veterinarian* 41–44.