



THE WINN FELINE FOUNDATION

For the Health and Well-Being of All Cats

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Update on Feline Herpesvirus 29th Annual Winn Feline Symposium, Austin, Texas June 2007

Speaker: David Maggs, BVSc(hons), DACVO, Associate Professor of Comparative Ophthalmology, University of California at Davis

Summary prepared by Janet Wolf, Tusenkatts Birmans

Dr. Maggs' presentation focused on what he called those "snotty-eyed cats" that most of us in the audience recognized. Those squinty and weepy-eyed cats that we tend to blame on one or two organisms, Chlamydia (a bacterium now renamed *Chlamydophila felis*) or feline herpesvirus. Of the two, feline herpesvirus (FHV-1) is the most common cause of this condition in cats and was the focus of his presentation.

Interestingly, herpesvirus infections may be limited to one eye. The virus is almost identical to the human herpes simplex virus (HSV-1). In the chronic form, it is not highly contagious. However, the cat initially acquires the disease when it is sneezed on by other cats! Like the human herpesvirus, infection with the feline form is forever; that is, once a cat is infected, that cat has an 80% chance of becoming a carrier for life. Some 45% of the carrier cats later shed virus, although the clinical signs will be reduced. In some cases, there will be no clinical symptoms.

In both the human and feline situations, outbreaks of symptoms tend to correlate with increased stress. As Dr. Maggs explained, there is an ongoing balance between the virus and the cat's immune system. When the cat is stressed, the balance is disturbed and the immune system no longer keeps the virus contained. There are a number of potential stressors, including pregnancy, birth, lactation, and drugs. In the latter case, drugs such as prednisolone that depress the cat's immune system are particularly suspect.

These findings led researchers such as Dr. Maggs to wonder if there was a way to boost the cat's immune system and thus decrease the frequency and extent of future outbreaks. Vaccination is only one tool in our armory to boost the immune system, but it does not prevent infection – it reduces the clinical symptoms.

Once you have a cat with clinical symptoms of a herpesvirus infection, you have three treatment courses – supportive care, antiviral therapy, and "voodoo." Voodoo consists of anecdotal therapies that are passed down from person-to-person over the years with no scientific study behind them.

Supportive Care

- Keep the nose and eyes clean, particularly in young kittens. The goal is to keep the cat as comfortable as possible. Since smell is an important component of eating in cats, this also helps to keep them interested in food.
- Adequate nutrition.
- Keep secretions moist. Considering putting the cat/kitten in a steamy bathroom or using a nebulizer, vaporizer, etc., to create warm, steamy air to ease breathing.

- Supplement the tear film in the eyes with a lubricant (eye ointment, not necessarily medicated).
- Do not use any anti-inflammatory agents, such as prednisone, either topically or systemically.
- Finally, if you use antibiotics, keep in mind that they will only treat secondary bacterial infections that may follow or run concurrently with the viral infection.

Antiviral Therapies

- Use of drugs created for humans with similar infections (HSV-1).
- Antiviral eye drops for humans are generally safe for feline eyes.
- None of the human antiviral eye treatments are currently licensed for use in cats, but they are often used “off label.”
- No drug has been specifically developed to target the feline version of herpesvirus (FHV-1).
- All drugs used are virostatic (i.e., they slow down the virus).
- None of the drugs are viricidal (i.e., kill the virus).
- Virostatic drugs need frequent administration – five to six times a day -- to be effective.
- It is important to begin the use of virostatic drugs early in the course of the disease to increase their effectiveness.

Antiviral drugs commonly used:

- Trifluridine (Viroptic) - a topical drug that is very expensive and irritating
- Idoxuridine – another topical drug, usually better tolerated
- Vidarabine (Vira A) – a topical drug that should be applied 5 times a day at a minimum. It is very expensive and it is irritating.
- Oral (systemic) drugs can have more serious side effects than the topical drugs. They include:
 - Oral acyclovir (Zovirax) – low efficacy against feline herpesvirus and is poorly absorbed by cats.
 - Valacyclovir (Valtrex) – **kills cats** and does not reduce the clinical symptoms.
 - Famciclovir (Famvir) – appears to be effective and safe for use in cats. It is still being tested for use in cats, but shows significant potential.

“Voodoo”

Because many antiviral agents are expensive, can have side effects, and require frequent application, many alternative therapies have been tried for cats with FHV-1 infections. However, because signs of FHV-1 infection tend to wax and wane even in untreated cats, improvements are often attributed to therapies when they may have been coincidental. For this reason, testing new therapies in a controlled manner is very important. Dr. Maggs has devoted much of his research to testing many of these therapies, especially lysine.

- Dr. Maggs, in a study funded by the Winn Feline Foundation, demonstrated that L-Lysine does help a cat fight an FHV-1 infection!
- In humans, increased levels of L-Lysine have been shown to have a positive impact only when Arginine levels are reduced.
- L-Arginine, however, is an essential amino acid for cats and must be present in sufficient quantities in their diet.
- Lysine Dosage in Cats: 500mg twice daily.
- Effects of L-Lysine in cats include:
 - Reduced viral replication.
 - Decreased viral shedding.
 - Decreased clinical symptoms.

The take-home message: L-Lysine can be helpful in controlling outbreaks of feline herpesvirus.