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## FELINE OPHTHALMOLOGY

Feline ophthalmology deserves a lecture in itself. There are a few diseases specific to cats, but there are also a number of ophthalmic diseases that are different clinically in cats than in other species.

### Feline Herpes Virus Infection

Feline herpes virus (FHV-1) infection is a common reason in my practice for owners to bring their cats to me. It is an alpha herpes virus which replicates in the epithelium of the nasal mucosa, conjunctiva, tonsils and nasal turbinates. It produces both ocular and respiratory signs. After the primary infection subsides, the virus becomes latent in the body and recrudescence infections are common. The clinical signs of an FHV-1 infection include upper respiratory infection, lethargy, fever, nasal and ocular discharge, conjunctival hyperemia and chemosis. One or both eyes may be affected. The virus replicates within the epithelium thereby causing conjunctivitis and dendritic corneal ulcerations. As the disease progresses, these ulcers may enlarge to geographic ulcers. If secondary bacterial infection occurs, the ulcer can rapidly progress through the layers of the cornea, resulting in perforation of the eye and possible loss of the eye. Approximately 80% of cats will become a carrier after the primary infection and recurrences are common when the immune system is suppressed. The diagnosis of FHV-1 infection is mostly based on clinical signs. The linear dendritic corneal ulcers are pathognomonic for FHV-1 infection. These dendritic ulcers are initially intra-epithelial and therefore fluorescein negative. Rose Bengal staining will reveal the presence of these ulcers. Laboratory tests are not reliable in the diagnosis of FHV-1 infection and I rarely use them. Treatment consists of topical antibiotic solution or ointment to prevent secondary bacterial infections. Feline Herpes Virus infection is a self-limiting disease and treatment with antiviral medications is not always needed. If indicated, topical antiviral medications used include idoxuridine, vidarabine, trifluridine or compounded 0.5% cidofovir solution. A disadvantage of these medications is the need for frequent applications. Cidofovir is an exception in that it can be used twice a day. Severe infections can be treated with oral famciclovir. The dose of this medication is highly debated and a wide range of doses exist in the literature. I will often use ¼ tablet of the 250 mg tablet twice a day. Severe infections are best treated with 30 mg/kg three times

a day. Oral L-lysine at 250 mg over the food twice a day can help reduce the frequency and severity of recrudescence infections. Common complications of FHV-1 infections especially in young cats include corneal perforation, anterior synechiae, phthisis bulbi, glaucoma and symblepharon. Stricture of the nasolacrimal system is very common and will result in chronic epiphora. Feline Herpes Virus has been implicated to play a role in keratoconjunctivitis sicca, eosinophilic keratitis, non-healing corneal ulcers, corneal sequestrum and anterior uveitis

### Keratoconjunctivitis Sicca (KCS)

This is a common cause for chronic conjunctivitis and discharge in dogs. It is usually an immune-mediated destruction of the lacrimal glands and certain breeds are predisposed. Clinical signs are very prominent and significant corneal scarring can eventually result in blindness if left untreated. This is an uncommon disease in cats. Destruction of the lacrimal gland by FHV-1 is suggested to be the most common cause. There is no breed predisposition and clinical signs are subtle. Mild blepharospasm and subtle discharge are often the only clinical signs. On slitlamp examination, the tear film appears thinner than normal. Corneal vascularization and pigmentation is rarely seen in KCS in cats. The diagnosis is difficult as STT results are not always reliable in cats. Often, clinical suspicion in combination with response to treatment is how the diagnosis is made. Viscous over the counter artificial tear drops can be used to treat KCS in cats.

### Eosinophilic keratitis

This is a disease that is unique to cats and horses. It is an immune-mediated inflammatory disease of the cornea that is most commonly seen in young cats. Clinical signs include a lack of discomfort and the presence of "gritty white infiltrates" and vessels in the cornea. The diagnosis is confirmed by cytologic examination of a corneal scrape. The sample can be obtained using a Kimura spatula. The presence of eosinophils and mast cells is diagnostic. Treatment consists of topical corticosteroids or cyclosporine. Compounded megestrolacetate can work very well as well. Treatment needs to be longterm to reduce the frequency of recurrences

### **Non-healing corneal ulcers**

Brachycephalic cats are predisposed to developing non-healing corneal ulcers. The etiology is not as well established as it has been in the dog. Feline Herpes Virus is a factor in many of these cats, and I therefore often treat with antiviral medications as well as topical antibiotic medications. The clinical signs are similar to what is seen in the dog. A usually fairly large superficial corneal ulcer is present with redundant epithelial edges. Vascular response is often minimal and healing can be prolonged. A superficial keratectomy is indicated if the ulcer does not heal with medical management.

### **Corneal sequestrum**

A corneal sequestrum is a piece of cornea that has become necrotic and secondarily has turned brown. It is seen in brachycephalic cats without an apparent etiology, or in other cats as a result of chronic irritation to the cornea or a non-healing corneal ulcer. There are two ways to treat a corneal sequestrum. One is medical management, in which you wait for the body to build a vascular response under the sequestrum and slough the sequestrum. The advantage of this method is that you avoid anesthesia, but the disadvantage is possible prolonged healing time and a small risk of perforation of the eye. Surgical removal with or without grafting procedures is the other option to treat a sequestrum. Recurrences are possible with either method of treatment