

THE MOST COMMON EYE DISEASES IN CAT

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Introduction

Many eye problems in the cat are quite different from those found in the dog, or any other animals. Corneal sequestrum, for example, appears to be unique to the cat. Ocular manifestations of systemic disease are quite common in cats and routine examination may be crucial as an aid to diagnosis. Deficiencies of taurine and thiamine can change the appearance of the ocular fundus. Those alterations associated with taurine deficiency are usually considered pathognomic. Most commonly the diagnosis of infectious disease that is aided by ophthalmologic examination; causal agents include viruses such a feline herpes viruses, FIP, FIV, FeLV, parasites (*Toxoplasma gondii*), yeasts and fungi. Neoplasia in cats is generally more aggressive than that of other domestic mammals and the eye and adnexa may be primarily or secondarily involved (1, 2, 3).

Diseases of the eyelids

Ankyloblepharon – in which the upper and lower eyelids are joined by a thick membrane (1).

Anophthalmia, agenesia and coloboma – complete or partial absence of the eyelids, uni – or bilateral. Treatment consists of cleaning and ocular lubrication for minimal affected cases. Conservative approach may also be adopted until more severely affected animals are old enough for surgery. Repair may be effected a number of techniques, depending upon the extent and site of the defect (3). Pic. 1, 2.



Pic. 1. Cat with anophthalmia.



Pic. 2. Cat with partial agenesis of the upper eyelid.

Eyelid dermatoses may be caused by viral (feline pox virus), parasitic (*Notoedres cati*), fungal (*Microsporum canis*) and bacterial infection (*Staphylococcus sp.*) and immune - mediated problems (2, 3, 4).

Neoplasia in cats are less common, but more malignant than those of dogs. Squamous cell carcinoma is the most frequently encountered eyelid neoplasm in cats. (1). Pic. 3.



Pic. 3. Cat with neoplasia of the III eyelid.

Diseases of the conjunctiva

Symblepharon – conjunctival adhesion of palpebral, bulbar, or nictitating conjunctiva, to each other, or the cornea. Symblepharon is occasionally of congenital origin, but most frequently follows neonatal infections, due to feline herpesvirus (2).

Conjunctivitis – is a common condition in the cat and may be unilateral or bilateral. The aetiology of conjunctivitis in cats is most commonly infection, herpesviruses and caliciviruses, bacterial such as *Chlamydia psittaci* and *Mycoplasma spp* (5).

Viral conjunctivitis (FHV – 1) is a common cause of ocular disease in the cat and primary infection is associated with respiratory signs such as rhinitis, tracheitis and bronchopneumonia. The treatment of conjunctivitis associated with primary infection is largely supportive and symptomatic. Topical antiviral treatment is not indicated for acute conjunctivitis. Nasal and ocular discharge should be removed and a systemic broad – spectrum antibiotic will be needed when secondary bacterial infections are present (1, 2).

Bacterial conjunctivitis - *Chlamydia psittaci* is the most important feline conjunctival pathogens. Treatment consist of topical tetracycline and systemic doxycycline 25 mg/kg (7).

Diseases of the cornea

Feline keratitis may be ulcerative or nonulcerative. FHV – 1 is a primary corneal pathogen in the cat. Proliferative (eosinophilic) keratoconjunctivitis and sequestrum formation are both relatively common feline problems without a canine equivalent (2, 3).

Herpetic keratitis

Feline herpesvirus – 1 (FHV - 1) is a cause of ophthalmia neonatorum and conjunctivitis. In adult cats is associated with upper respiratory tract disease. The typical clinical presentation is mild blepharospasm, lacrimation, and serous ocular discharge. Chronic stromal keratitis may result corneal scarring and is associated with chronic epithelial ulceration. Cats with herpesvirus infection may also have FeLV, FIV, or *Chlamydia psittaci* (2, 7).

Eosinophilic keratoconjunctivitis

The clinical signs include ocular discomfort, mild blepharospasm, a low – grade ocular discharge and involvement of the conjunctiva and cornea. Infiltration and vascularization of the cornea are key features of the condition. The pathognomic feature of the proliferative keratoconjunctivitis is a superficial creamy white plaque – like material which has been likened to cottage cheese in appearance. Treatment consist of topical corticosteroids or megestrol acetate per orally (3).

Corneal sequestrum

Corneal necrosis, corneal sequestration, mummification, corneal nigrum, keratitis nigrum, are the different names of the same diagnosis. The condition is usually unilateral. The sequestrum is located in the central stroma, there is ocular discomfort, discharge, blepharospasm. The most obvious histopathological findings is coagulative necrosis and nonspecific inflammatory cells are also present. The amount of ocular discomfort exhibited by affected cats varies considerably and, together with depth of the lesion, determines the management approach (1).
Pic. 4.



Pic. 4. Cat with corneal perforation and enophthalmitis.

Glaucoma

Glaucoma is defined as an increase in the ocular pressure with resultant damage to the retina and optic nerve causing total and irreversible blindness. In cat a breed predisposition in the Siamese and Persian has been noted. The most common reason of secondary glaucoma in cats is uveitis, neoplasia, especially melanoma and lymphosarcoma (3).

Disease of the uveal tract (8, 9)



Pic. 5. Cat with uveitis and cataract as secondary complication, bilateral.

Inflammatory disease of the uveal tract

Viral causes of uveitis:

- Feline infectious peritonitis virus
- Feline leukemia – lymphosarcoma complex
- Feline immunodeficiency virus

Parasitic causes of uveitis:

- Toxoplasmosis

Other causes of uveitis:

- Mycotic uveitis
- Cryptococcosis
- Histoplasmosis
- Blastomycosis

Symptomatic treatment of uveitis:

- Corticosteroids
- Nonsteroidal anti - inflammatory agents
- Mydriatic, cycloplegics

Uveal neoplasma

Primary neoplasia – the commonest primary intraocular tumor is a melanoma. Secondary neoplasia – lymphosarcoma associated with FeLV is the commonest secondary neoplasm.

Fundus

The classification of the feline retinal diseases differs between authors and is complicated by the fact that many cases may have an unknown aethiology. Feline retinal disease is often associated with systemic disease and full eye examination, in particular examination of the fundus, should always be included as part of the clinical examination of the sick cat (4).

Acquired disease of the ocular fundus include vascular anomalies and abnormalities such as anaemia, hyperviscosity, lipemia retinalis and haemorrhage; retinal detachment and hypertension. Three specific degenerative retinal diseases of known aethiology are: taurine deficiency retinopathy and two separate forms of hereditary progressive retinal atrophy in the Abyssinian cat (1, 3).

Lipaemia retinalis

Lipaemia ocularis is an ocular manifestation of chylomicronaemia and may be seen in association with both primary and secondary hyperlipoproteinaemia, or more specifically hypertriglyceridaemia (4).

Hypertension

Sudden onset blindness associated with retinal detachment and/or intraocular haemorrhage is the most perceptible indicator of the presence of systemic hypertension. The problem is most commonly recognized in the older cats (on average 14 – 15 years). The diagnosis is best by sequential measurement of blood pressure and assessment can be created out by noninvasive methods using either an oscilometric sphygmomanometer or a Doppler – shift sphygmomanometer (4).

Taurine deficiency retinopathy

Taurine deficiency retinopathy or central retinal degeneration (FCRD) is a bilateral, usually symmetrical, progressive condition that occurs in both sexes. The retinal changes are typical, unusual and highly specific for this condition. The first lesion appears at the area centralis, level with and temporal (lateral) to the optic disc in a region devoid of visible blood vessels. Hyper – reflectivity in a tapetal region always indicates retinal thinning, i.e. retinal degeneration. The affected area increases in size but remains clearly defined and horizontal and oval in shape. Ophthalmoscopically, the appearance may suggest a pigmented border particularly along the upper and lower edges. A second and similar area appears next on the nasal (medial) side of the disc. These two areas spread towards one another, and fuse in a bridge immediately superior to the optic disc (3).

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