

Conjunctivitis in Dogs

(Inflammation of the Moist Tissues of the Eye)

Basics

OVERVIEW

- Inflammation of the conjunctiva, the moist tissues of the eye; the conjunctiva is the blood vessel-rich mucous membrane that covers the front part of the eyeball or globe, up to the edge of the cornea (known as the “bulbar conjunctiva”) and lines the lids (known as the “palpebral conjunctiva”) and third eyelid

SIGNALMENT/DESCRIPTION OF PET

Species

- Dogs

Breed Predispositions

- Breeds susceptible to allergic conditions such as “atopy” or immune-mediated skin diseases tend to have more problems with allergic conjunctivitis, and “dry eye” (known as “keratoconjunctivitis sicca” or KCS); “atopy” is a disease in which the dog is sensitized (or “allergic”) to substances found in the environment (such as pollen) that normally would not cause any health problems



SIGNS/OBSERVED CHANGES IN THE PET

- Squinting or spasmodic blinking (known as “blepharospasm”)
- Redness of the moist tissues of the eye (known as “conjunctival hyperemia”)
- Discharge from the eye(s); may be clear or may contain mucus and/or pus
- Fluid buildup (known as “edema”) of the moist tissue covering of the eyeball (bulbar conjunctiva), around the cornea (condition known as “chemosis”)
- Follicle formation; the “follicles” are accumulations of lymphoid tissue that develop at the moist tissue surface of the back of the third eyelid, causing a “cobblestone” appearance; lymphoid tissue contains lymphocytes, a type of white blood cell that are involved in allergies and response to irritants
- Retracted eye (known as “enophthalmos”)
- Third eyelid up (known as “eversion”)

CAUSES

Bacterial

- Primary condition is rare (that is, not secondary to another condition such as “dry eye” [keratoconjunctivitis

sicca or KCS])

- Newborn puppy conjunctivitis (known as “conjunctivitis neonatorum”—accumulation of discharge under sealed eyelids, is often associated with a bacterial or viral infection; is seen before the eyelids naturally open)

Viral Causes

- Canine distemper virus
- Canine herpesvirus-1
- Canine adenovirus-2

Immune-Mediated Causes

- Allergic conjunctivitis—especially in atopic pets; “atopy” is a disease in which the animal is sensitized (or “allergic”) to substances found in the environment (such as pollen) that normally would not cause any health problems
- Follicular conjunctivitis—inflammation of the moist tissues of the eye (conjunctivitis) characterized by accumulations of lymphoid tissue located at the moist tissue surface of the third eyelid and the eyelids, causing a “cobblestone” appearance; lymphoid tissue contains lymphocytes, a type of white blood cell that are involved in allergies and response to irritants; is seen especially in dogs younger than 18 months of age, and is secondary to long-term (chronic) antigenic stimulation (antigen, the substance to which the immune system is responding)
- Plasma-cell conjunctivitis (known as “lymphocytic/plasmacytic”)—inflammation of the moist tissues of the eye (conjunctivitis) characterized by the presence of plasma cells (a specialized type of white blood cell; plasma cells are lymphocytes that have been altered to produce immunoglobulin, an immune protein or antibody necessary for fighting disease); especially in German shepherd dogs
- Related to generalized (system-wide) immune-mediated diseases—such as pemphigus, in which the body attacks its own tissues

Secondary to Disease of the Tissues Surrounding the Eye (Known as “Adnexa,” Such as Eyelids, Third Eyelid, and Tear Glands)

- Lack of normal tear film (known as “aqueous tear film deficiency”); see “dry eye” (KCS)
- Lid diseases (such as “entropion,” in which the eyelid curls inward, allowing facial hair to rub the eye; “ectropion,” in which the eyelid is turned outward)
- Eyelash diseases (such as “distichiasis,” in which two rows of eyelashes are present on a single eyelid; “ectopic cilia,” in which one or more eyelashes grows in an unusual location [may grow through the conjunctiva, leading to irritation of the eye])
- Exposure due to nerve paralysis
- Secondary to blockage of the outflow portion of the drainage system that normally moves tears to the nasal passages (known as the “nasolacrimal system”), such as a blocked nasolacrimal duct, or lack of normal openings on the eyelids into the tear drainage system (known as “imperforate puncta”)
- Eyelid mass

Secondary to Trauma or Environmental Causes

- Foreign body located in the moist tissues of the eye
- Irritation from dust, smoke, chemicals, or eye medications

Secondary to Other Eye Diseases

- Disorder of the cornea (the clear outer layer of the front of the eye) characterized by the presence of ulcers, with or without inflammation (condition known as “ulcerative keratitis”)
- Inflammation of the front part of the eye, including the iris (known as “anterior uveitis”)
- Disease of the eye, in which the pressure within the eye is increased (known as “glaucoma”)
- Cancers

Other Causes

- Ligneous conjunctivitis (inflammation of the moist part of the eye, characterized by thick, opaque conjunctiva)—young, female Doberman pinschers

RISK FACTORS

- Exposure to dogs with canine distemper virus, herpesvirus-1, or adenovirus-2 infections
- Atopy
- KCS (dry eye)

Treatment

HEALTH CARE

- Primary—often outpatient
- If secondary to other diseases (examples include anterior uveitis, corneal ulceration, glaucoma, lens out of place)—may need hospitalization to address the underlying problem

ACTIVITY

- Primary—usually no restriction
- Suspected contact irritant or sudden (acute) allergic disease—prevent (if possible) contact with the agent causing the irritation or allergy
- Do not expose pets to other dogs to decrease risk of spread of infectious causes (such as canine distemper virus)

DIET

- If suspected underlying skin disease and/or food allergy—food elimination diet recommended; “elimination diet” is a diet that does not contain substances that the animal normally eats and is free of additives (novel)
- No changes for most pets

SURGERY

- Blockage of the outflow portion of the drainage system that normally moves tears to the nasal passages (known as the “nasolacrimal system”), such as an obstructed nasolacrimal duct—surgical repair is difficult; initial medical treatment will be done (see “Epiphora” handout)
- Eyelid or eyelash diseases may need surgical removal of extra lashes, or eyelid margin adjustment
- Follicular conjunctivitis unresponsive to medical therapy may need to be debulked surgically (“debrided”)
- Cancer involving the moist tissues of the eye (“conjunctival cancer”)—may involve surgical removal of the tumor followed by radiation therapy (known as “ β -irradiation”); freezing (known as “cryotherapy”); may involve surgical removal of the eyeball and associated tissues (known as “enucleation/exteneration”), depending on the type of tumor and the extent of involvement

Medications

Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered as all inclusive

BACTERIAL INFECTIONS

- Topical antibiotic drops, ideally based on bacterial culture and sensitivity results (for initial treatment), note antibiotics may be applied directly to the moist tissues of the eye (“topical treatment”) or may be given by mouth (“systemic treatment”)
- Systemic antibiotics—occasionally indicated, especially for more generalized disease (such as inflammation of the moist tissues of the eye [conjunctivitis] associated with skin infection characterized by the presence of pus [known as “pyoderma”])

HERPES VIRAL INFECTION

- Most self limiting
- For canine herpesvirus, specific topical antiviral drops such as Trifluridine, Idoxuridine

NEWBORN CONJUNCTIVITIS

- The veterinarian will open the lid margins carefully, establish drainage of discharge, and treat with topical antibiotic

IMMUNE-MEDIATED CONJUNCTIVITIS

- Choice of treatment depends on severity
- For allergic conjunctivitis, artificial tears and eye flushing may be used
- Ketotifen drops
- Topical steroids—dexamethasone; improvement often temporary

- Treatment of any underlying disease (such as atopy) often improves clinical signs
- Other topical steroids—prednisolone; betamethasone; hydrocortisone
- Cyclosporine ointment

DRY EYE CONJUNCTIVITIS

- Choice of treatment depends on severity
- Cyclosporine, artificial tears

Follow-Up Care

PATIENT MONITORING

- Recheck shortly after beginning treatment (at 5 days); then recheck in 2 weeks or as needed

PREVENTIONS AND AVOIDANCE

- Treat any underlying disease that may make the eye disease worse—allergic or immune-mediated skin disease; “dry eye” (KCS)
- Vaccination against canine distemper virus

EXPECTED COURSE AND PROGNOSIS

- Bacterial infection/inflammation of the moist tissues of the eye (conjunctivitis)—usually resolves with appropriate administration of antibiotics; if an underlying disease is found (such as “dry eye” [KCS]), resolution may depend on appropriate treatment and resolution of the disease
- Allergic or follicular—nursing care and treatment may be needed during peak allergy times
- Immune-mediated diseases (lymphocytic/plasmacytic)—tend to be controlled, not cured; may require long-term (chronic) treatments at the lowest dose possible
- Eyelid and eyelash-associated disorders—prognosis is good if underlying cause is removed

Key Points

- If discharge is noted, gently clean the eyes before administering treatment
- If both eye solutions and eye ointments are prescribed, apply the solution(s) before applying the ointment(s)
- If several eye solutions are prescribed, wait at least 5 minutes between treatments
- Call for further guidance if the condition worsens; this indicates that the condition may not be responsive to treatment or may be progressing, or that the animal may be having an adverse reaction to a prescribed medication
- An Elizabethan collar should be placed on the pet if self-trauma occurs