



Always consult with a veterinarian that you feel comfortable with before diagnosing or treating any disease on your own. This information is for reference only.

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Corneal Dystrophy

Issue Description

It is the development of gray-white opaque deposits of calcium and fats under the surface of both of the dog's corneas.

Causes

Corneal Dystrophy is an inherited abnormality that affects one or more layers of the cornea. Both eyes are usually affected, although not necessarily symmetrically. Chronic or recurring shallow ulcers may result, depending on the corneal layers affected.

Affected Breeds

Several breeds can be affected by this disorder including: The Airedale, Afghan Hound, American Cocker Spaniel, Basenji, Beagle, Bearded Collie, Bichon Frisé, Boston Terrier, Boxer, Briard, Cavalier King Charles Spaniel, Chihuahua, Chow Chow, Dachshund, English Springer Spaniel, German Shepherd Dog, Golden Retriever, Irish Wolfhound, Labrador Retriever, Miniature Pinscher, Nova Scotia Duck Tolling Retriever, Pembroke Welsh Corgi, Rough Collie, Samoyed, Shetland Sheepdog, Siberian Husky, and Vizsla.

Symptoms

Confusion often arises over the use of the term "corneal dystrophy" in dogs. Technically, "corneal dystrophies" are diseases of the cornea that are bilateral, non-inflammatory and inherited. The confusion arises because the term "corneal dystrophy" is sometimes used to refer to a disease with similar clinical signs but is not hereditary. A more appropriate term for the non-inherited conditions is corneal degeneration. In most breeds, corneal dystrophy appears as gray-white, crystalline or metallic opacities in the center of the cornea or close to the periphery. These opacities may affect any layer of the cornea, the epithelium (outer layer), the stroma (the thick, middle layer), or the endothelium (the inner layer).

The opacities are usually oval or round and are sometimes doughnut-shaped. The age of onset of the disease varies within and among dog breeds and may range from 4 months in Airedale Terriers, to up to 13 years in Chihuahuas. The opacities usually progress but in some cases they remain static. Their progression may be very slow and may or may not lead to blindness (common in Cocker Spaniels, Poodles, Samoyeds, Siberian Huskies, Pointers, German Shepherds, and Bichon Frises). On the other hand, progression may be rapid and lead to blindness (more common in Airdale Terriers, Boston Terriers, Chihuahuas and Dachshunds). The mode of inheritance varies among breeds and in many breeds it is unknown. In the Airedale Terrier it is thought to be a sex-linked trait and in the Siberian Husky, Corneal Dystrophy has been shown to be a recessively inherited trait with variable expression.

Corneal dystrophies are usually not painful. In a few breeds, however, a dystrophy can lead to secondary breaks in the epithelial (outer) layer of the cornea. When this occurs a painful corneal ulcer develops requiring intense treatment. In other breeds, a painful ulcer may not develop and the dystrophy itself is not treatable. No medication will "dissolve" the opacity. Surgical removal of the dystrophic area may temporarily decrease the opacity in cases of epithelial dystrophy. Often, however the opacities will reform in the healed cornea.

Diagnosis

You or your veterinarian may notice one or several small white to gray areas in one or both of your dog's eyes. Magnification may reveal crystalline deposits within the deeper layers of the cornea or simply a haze.

If there are epithelial erosions, your dog may show signs of discomfort such as increased tearing, squinting and rubbing the eye. Your veterinarian will examine the eye for erosions or, in the case of edema, for bullous keratopathy.

A fluorescein dye test is used to check for corneal ulcers.

Treatment

For dogs that experience painful, shallow epithelial erosions (primarily Boxers and Shetland Sheepdogs), treatment is aimed at eliminating the lesions. This will involve medication in the eye. Surgical treatment may be required if chronic discomfort persists.

Most stromal dystrophies cause no discomfort and do not interfere with vision. No treatment is necessary.

In endothelial dystrophy, no treatment is necessary in the early stages of the disease. As the edema (or fluid build-up) in the cornea increases, dogs may develop "water blisters" (bullous keratopathy) which can rupture and cause painful erosions. Your veterinarian will prescribe eye medication appropriate for bullous keratopathy (hyperosmotic solutions) as well as treatment for ulcers if present. There are surgical treatments which can be performed by a veterinary ophthalmologist if the erosions persist or recur frequently despite medical therapy.

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