

Pannus

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Pannus, also known as chronic superficial keratitis, is an eye disease that can result in blindness if it is not treated. Pannus is a lifelong problem that can typically be managed but not cured. Pannus is more common and more severe at high altitudes and in areas with severe air pollution. It is widely believed to be an immune-mediated condition, possibly as a response to exposure to ultraviolet light or other irritants. Genetic factors may be involved in the German shepherd dog (GSD) and GSD-mix dogs.

A variation of pannus can affect the third eyelid, and is called nictitans plasmacytic conjunctivitis or plasmoma. Corneal pannus and plasmoma can occur together or alone.

Pannus occurs most frequently in GSD and GSD-mix dogs, but it occurs sporadically in the greyhound, Rottweiler, Belgian shepherd, Belgian Tervuren, and several other breeds.

Dogs 4 to 7 years of age are at highest risk for developing pannus. In German shepherds, the younger the dog is at diagnosis, the more severe and unresponsive the condition tends to be. Pannus tends to be milder and more responsive to treatment if the age of onset is after 5 to 6 years and if the affected patient lives at a low altitude.



Lesions can be seen on the corneas of this 10-year-old German shepherd. Photo courtesy of Dr. Maria Bates.



This 5-year-old German shepherd cross spent a lot of time outdoors. He came in for a 2-week history of progressive cloudiness of corneas that turned out to be pannus. Photo courtesy of Dr. Margaret Dale.

Both eyes are affected although one may look worse than the other. The cornea is the clear outer covering of the eye that attaches to the white sclera of the eye. Usually a pinkish film starts at the outer aspect of the cornea and conjunctiva and spreads towards the center of the eye. As the film spreads across the cornea, it becomes opaque. As time goes by, the cornea becomes dark or pigmented.

An eye examination can diagnose pannus.

Treatment

Depending on the severity of the disease at diagnosis, aggressive treatment may be started to halt the progress and once the disease is under control, then therapy can be tapered to less frequent

applications. In the beginning, eye drops and/or ointments must be given several times a day. Generally, a corticosteroid product is started initially. In severe cases or cases of plasmoma, cyclosporine or tacrolimus may be added to the steroid. When the dog is blind or near blind from the disease, subconjunctival injection of corticosteroids can be done at the onset of therapy in order to speed up response to the medications.

The goal is to halt the progression of the disease and achieve remission. Flare ups are common and can occur at various seasons/times of the year. Periodic eye exams (3 to 4 times per year) are done

to watch for signs of flare ups, so the treatments can be modified before the pannus becomes severe. Not every veterinarian is comfortable treating pannus. Discuss with your veterinarian whether referral to a veterinary ophthalmologist would be best for you and your pet.

Prognosis

Most dogs with mild to moderate pannus or that live at low altitudes respond well to topical medications. All dogs with pannus must be monitored carefully for flare ups, however. Dogs that live or work (such as military dogs in Afghanistan) at high altitudes can be much harder to treat. Cases that are not responding as expected or are poorly responsive to therapy should be referred to a veterinary ophthalmologist for further evaluation and to determine if other options should be considered.

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