

Pannus

BASIC INFORMATION

Description

Pannus is an infiltration of the corneas and/or third eyelids with certain white blood cells, blood vessels, and brown pigment. It is also called *chronic superficial keratitis*.

The German shepherd dog is predisposed to the condition. It may occur sporadically in other breeds, such as the greyhound, Rottweiler, golden retriever, Belgian tervuren, border collie, and others.

Causes

The disease is probably an immune-mediated condition, which is an inflammation that is induced by an abnormal immune response.

Pannus is aggravated by ultraviolet radiation and pollution.

Clinical signs are most severe in dogs residing at high altitudes or in environments with high levels of pollution.

Clinical Signs

Both eyes are typically affected. A red-gray film starts at the 4 and 8 o'clock positions and spreads across the cornea to meet in the middle. If untreated, the entire cornea may become covered, with loss of vision. With time brown (melanin) pigment invades the cornea and may persist despite treatment.

With the third eyelid form of the disease (also known as *plasmoma*), the leading edge and front surface of the third eyelids become thickened, red, depigmented, and irregular. Plasmoma may occur alone or with the corneal disease.

Diagnostic Tests

Diagnosis is usually made by close examination of the corneas and third eyelids. Additional testing for dry eye and corneal ulcers is usually done. Scrapings may be submitted for microscopic analysis (cytology) to identify the type of white blood cells present, which are usually lymphocytes and plasma cells. Other causes of corneal cloudiness must also be ruled out.



TREATMENT AND FOLLOW-UP

Treatment Options

Topical steroid and cyclosporine medications are the most common therapies used for pannus. In mild to moderate cases, topical steroids may be used alone. In severe cases, topical steroids may be combined with a steroid injection into the adjacent conjunctiva or with topical cyclosporine. For severe, refractory cases of pannus with significant loss of vision, beta radiation or cryotherapy (freezing of the cornea) may be considered.

Although corneal ulcers are uncommon with pannus, topical antibiotics are usually administered if they are identified.

Follow-up Care

Periodic recheck visits are used to assess response to treatment and to make adjustments in the frequency and type of medications administered. If the disease does not respond to one type of steroid, it may respond to another or to a combination of steroids and cyclosporine. Because topical steroids are usually needed long term, the cornea is also monitored for ulcers with fluorescein staining.

The goal of therapy is to clear the cornea of the pink-gray film and then attempt to improve any pigmentation. Once the active pannus has receded, the frequency of medications is decreased to the lowest amount that keeps the condition in remission. Notify your veterinarian immediately if you see any worsening of the film in the cornea or any onset of pain (squinting or increased tearing). If the eye becomes painful while a topical steroid is being given, stop the drug until the eye can be re-examined.

Prognosis

Pannus and plasmoma can often be controlled but are rarely cured, especially in German shepherd dogs. Treatment is usually needed for the life of the dog. Active pannus may respond quickly or slowly, but it usually does recede with appropriate therapy.

Corneal pigmentation can be very difficult to treat and may persist. It is much easier to prevent corneal pigmentation by early intervention and treatment than it is to get rid of the pigment once it is in the cornea. After the pannus has receded, the cornea may be left with mild, cloudy scarring or spots of lipid deposits. These latter conditions do not usually affect vision, but vision can be severely affected by pigmentation.

Vigilant monitoring is required to detect recurrences. Many cases of pannus flare up, sometimes at the same time each year.

In some geographic areas, flare-ups are more common during the summer; in others, recurrences are more likely during the winter. Pannus almost always recurs if medications are stopped for any length of time, and the recurrence can be more difficult to treat than the original condition or months apart.