

## Episcleritis

With thanks to Dr. Bari Spielman

Episcleritis is an inflammation of the episcleral tissue lying adjacent to the eyeball. The deep white tissue that comprises the firm outer layer of the eye is called the sclera, and the tissue above the sclera and extending away from it is the episcleral tissue. Episcleritis may also involve the conjunctiva, which is the thin tissue on the surface of the eye, and usually involves the tissue immediately beneath the conjunctiva. It can be focal (limited to a small area) and marked with nodes, or diffuse (widespread) and involving the entire circumference of the eye. Episcleritis may affect one or both eyes.

Focal episcleritis appears as a small, pink, raised mass over the white of the eye, and is more common in collies, Shetland sheepdogs, and American cocker spaniels than in other breeds. Diffuse episcleritis is seen more often in the American cocker spaniel, Airedale terrier and Rottweiler.

Most affected dogs are young adults.

The causes of episcleritis are not well understood. It is believed that it is an immune-mediated disease, which means that the immune system reacts to something, and this reaction causes tissue inflammation. Rather than helping the inflammation to subside, subsequent immune responses make the inflammation worse and a vicious cycle of progressively worsening inflammation begins.

During the past 20 years this disease has been given several names, including episclerokeratitis, fibrous histiocytoma, and nodular granulomatous episcleritis. At this time episcleritis is the most common name used.

### What to Watch For

Dogs with focal episcleritis develop a raised, pink, smooth, painless, firm, tumor-like mass. This mass is usually present at the junction where the clear part of the eye (cornea) meets the white of the eye (sclera). The mass may be present in one or both eyes. Uncommonly, similar nodular lesions may also be present in the eyelids and in the mouth.

Dogs with diffuse episcleritis have dramatic reddening of the conjunctiva and sclera and enlargement of the episcleral blood vessels. This tissue may also become thickened, causing the size of the eye to appear larger or deformed. Diffuse episcleritis is often bilateral (involves both eyes).

Neither of these conditions is usually painful, but the dog may exhibit some epiphora (leakage of tears from the eye).

If the inflammation affects the nearby cornea, then a whitish discoloration of the cornea may also be noted.

## Diagnosis

Medical history, clinical findings, and ocular examination are usually highly suggestive of episcleritis. Much of the time the diagnosis is made based on the clinical appearance of the eye lesion.

A complete ocular examination is indicated to rule out other causes of a red eye. This involves performing a Schirmer tear test, fluorescein staining of the cornea, tonometry to measure the pressure within the eye, and a detailed examination of both the front and back portions of the eye.

A thorough physical examination is also performed to determine if any other lesions or abnormalities are present.

A complete blood count, biochemical profile, and urinalysis are usually normal, but may be performed prior to the onset of therapy.

Biopsy and histopathologic examination of affected tissue are diagnostic, but are not always performed due to the classic appearance of the lesion.

Your vet may elect to refer your dog to a veterinary ophthalmologist for a comprehensive eye examination, to confirm the diagnosis, and to obtain advice on the best treatment.

## Treatment

Both nodular and diffuse episcleritis require long-term therapy to control the condition. Both can be difficult to treat in some animals and different cases may require different forms of therapy.

The nodular form is not a tumor, although it has a similar appearance. When the nodular form occurs in older dogs, it tends to grow faster and be more aggressive in its behavior than the nodular forms that occur in young dogs.

Treatment of nodular episcleritis involves the use of topical corticosteroids. Initially an injection of steroids (methylprednisolone or triamcinolone) may be deposited under the conjunctiva right next to the nodule. This places a deposit of concentrated medication in the vicinity of the lesion. The injection is then followed by steroid drops or ointments applied to the surface of the eye. If the nodule is discovered early and is quite small, then the treatment may begin with steroid drops or ointments only.

Because nodular episcleritis can be difficult to treat, other therapies have been developed for this condition. They include cryotherapy, which is freezing the nodule with a super cooling agent, and the use of systemic drugs that suppress the immune system. Such drugs include oral prednisone and azathioprine (Imuran®).

Treatment of diffuse episcleritis involves the use of topical corticosteroids (e.g. prednisolone) and may also involve an injection of steroids under the conjunctiva. When the inflammation is difficult to control or spreads towards the back of the eye, then systemic prednisolone and/or azathioprine are also useful. Cryotherapy has not been helpful in the treatment of diffuse episcleritis because the inflammation is too widespread.

A newer treatment that has been recommended for both forms of episcleritis is the administration of oral tetracycline and oral niacinamide. When used together these agents have had beneficial effects on immune-mediated skin diseases, and it is thought that they might be helpful with this particular eye disease. At this time there are no published reports on the success of this treatment, but both medications are safe and fairly inexpensive.

All medications used in the treatment of this disease must usually be administered for a long period of time. The disease may take three to eight weeks to improve substantially and medications may be required for months to control or cure the condition. If treatment is stopped abruptly or too soon, the disease has a high tendency to recur. Recurrences can also be more difficult to treat.

If diagnosed early and if consistent therapy is administered to the eye(s), most cases of episcleritis can be controlled or cured. If medications are not given consistently, particularly in older dogs with more aggressive forms of the disease, then the disease may progress unchecked and can do serious harm to the eye.

### **Home Care and Prevention**

Administer all medications as directed by your vet and return for follow up. When oral prednisolone and azathioprine are used, careful monitoring of the dog is required because the drugs carry potential side effects such as liver changes, low platelet counts, and low white blood cells counts. Your vet will usually recommend that complete blood counts and biochemistry profiles be performed periodically while the dog is taking these medications.

Numerous recheck visits are necessary to monitor the response of the eye to treatment, to make modifications in treatments, and to monitor for side effects. Some recheck visits may be performed by your vet, and some may require follow-up with a veterinary ophthalmologist. If at any time the eye appears to worsen or the dog becomes painful and squinty, the eye(s) should be re-examined by your vet immediately.

There is no preventative care for episcleritis