

Nasal Solar Dermatitis "Collie Nose"

by
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Introduction

Nasal solar dermatitis of the dog is a congenital, abnormal reaction of the skin to sunlight. It frequently occurs in Collies, Shetland Sheep Dogs, German Shepherds, and mixed breeds closely related to these breeds. It affects only the nose and the eyes and the areas adjacent to them, and is commonly referred to as "collie nose." Although the exact pathogenesis is unknown, there appears to be little doubt that exposure to sunlight is one of the exciting factors. This is in contrast to feline solar dermatitis which appears not to be a photosensitive disorder.

Discussion

Nasal solar dermatitis, or chronic solar dermatitis as it is often called, is a distinct diagnostic entity in dogs. It is a disease that is very old yet little literature has been written on the subject due to its unknown etiology. It is known that the cause of this disease is a peculiar susceptibility of these certain breeds to the reaction of the skin to sunlight. Thus far, it appears that "collie nose" may fall into one of two classifications: 1) chronic, polymorphic light-dermatitis of the eczema type which occurs principally in the southwest part of the United States where the sunlight is more intense, 2) dermatitis related to inherited abnormalities such as disturbances in porphyrin or endocrine metabolism. Since the disease syndrome is seen in no specific geological location such as the

Southwest, researchers are pointing more in the direction of an inherited abnormality.

Porphyrins in various complex arrangements, acting as respiratory pigments, form one of the most important systems found throughout plant and animal life. Normally, less than 300 units daily of coproporphyrin, types 1 and 3, are eliminated in the urine.¹ Excretion of urinary coproporphyrins in excessive amounts is termed porphyrinuria. It is often associated with disturbed liver function in man. A tendency to excrete abnormal types and amounts of porphyrin is inherent in some people, and this excessive excretion is often associated with skin lesions which are adversely affected by sunlight. However, the efforts to demonstrate the presence of photodynamic substances in the blood and the urine of dogs with "collie nose" have been unsuccessful.

In light sensitivity associated with endocrine dysfunction, the successful treatment of a variety of light-sensitive eruptions with steroid and gonadotropic hormones suggests that the normal steroid metabolism may be interfered with by abnormal reactions to sunlight.

The etiology may even be something other than an inherent porphyrin imbalance or a hormone dysfunction, but right now it appears to be one or the other.

The disease runs an insidious course. Initial signs are usually so minor that it causes little concern to the owner. Often it is several months after onset before the animal is presented to a veterinarian for examination. The initial lesion usually appears at the junction of the hairless, or black part of the nose, with skin which

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has hair. A mild erythema appears at this point with an associated mild alopecia. As the disease increases in severity exfoliation begins on the edge of the nose, and this is gradually followed by a crusting and healing process. Mild hemorrhage often accompanies scratching or rubbing of the area involved. However, it should be noted that pruritus, as such, is not an important manifestation of "collie nose." Inflammation will gradually spread up the bridge of the nose, until it involves all the periorbital tissue. Eyelids become inflamed and then a mild to severe conjunctivitis will often develop. Finally the whole area becomes a severe, moist, or dry eczematous dermatitis. It seems to alternate all over the nose, with areas of peeling, scaling, and bleeding. It should be stressed that prior to the onset of signs, the affected areas are normally pigmented. Depigmentation then occurs as the process spreads upward on the nose.

Progression and enlargement of the lesions are evident with passage of each year, but are especially rapid during periods of prolonged exposure to intense sunlight. This may occur in the summer months, or during the winter as a result of reflection from snow.

As the condition becomes worse, ulceration can cause disappearance of the epidermis and even the dermis and underlying cartilage. In advanced cases there is increased activity of the cells in the basal layer with the formation of large, polyhedral tumor cells which invade the dermis and subcutaneous tissue. At this point a squamous cell carcinoma forms with cords of neoplastic cells invading to the level of the nasal cartilage. With the formation of squamous cell carcinoma, the prognosis is poor. However, if there actually is formation of a squamous cell carcinoma, which must be confirmed by a biopsy, one may choose to remove these small growths at the time the animal is anesthetized to perform the tattooing. Even at this point one may halt the further development of the tumor growth.

There are no specific or pathognomonic tests for "collie nose." However, the clinical appearance is typical, and the breed, history, and improvement upon removal

from sunlight all give circumstantial support to the diagnosis. A skin biopsy should be performed in advanced cases to allow pathologic examination for squamous cell carcinoma.

Various forms of treatment have been used on "collie nose," and in all truthfulness, none are completely successful or satisfactory. Such treatments as corticosteroids, sun-screening agents, x-ray therapy, and tattooing the lesions seem to be the most beneficial. It should be stressed at the time of initial examination that there is no permanent cure, and the best that can be hoped for is a satisfactory control of the signs. There are certain general principles of therapy that should apply to all treatments. These principles include: 1) decrease the exposure to sunlight, 2) reduce the inflammation and relieve the pruritus, if present, and 3) combat any secondary bacterial infection that might be present.

I will give the present therapy that is now considered best, however, this will probably change in the future. First and foremost, the animal's environment should be altered to provide the least possible exposure to sunlight. This may be accomplished by keeping the dog in a basement or darkened area during hours of intense sunlight. Except in the mildest cases of the disease, this alone is not sufficient. The only effective and practical method to quickly decrease the inflammation is the use of corticosteroids. If the lesions are widespread and involve the oral cavity, systemic administration is indicated. Daily doses of the magnitude of 0.5 to 1 mg./lb. of prednisolone are usually necessary. If the lesion is limited to the nose, the use of intralesional triamcinolone acetonide is the method of choice. It should be injected using a 25 to 26 gauge needle at the rate of 10 mg./sq. inch.⁵ This will bring a more rapid resolution of the lesions than corticosteroids administered systemically. If there is ocular involvement, a corticosteroid-antibiotic ophthalmic ointment should be applied to the eyes 2 to 3 times daily. Finally if secondary bacterial infection has developed, appropriate antibiotics, as determined by culture and sensitivity should be given.

The treatments just listed are initial treatments only. They should be followed with one of several methods of long term therapy. The method utilized depends on the owner's ability to prevent the dog's exposure to sunlight and how effective it is. Some temporary protection may be provided by the frequent use of a black-tipped marking pen. For a more permanent replacement of the lost pigment, the affected area can be tattooed with black ink. This is usually accomplished by using a Nicholson tattoo vibrator. This procedure must be done under general anesthesia, and it is usually necessary to repeat the treatment at least three times at 30 to 60 day intervals. When this procedure is completed, the tattooed skin is a slate gray color. Annual "touch-up" tattooing is usually necessary. Tattooing is most beneficial in mild cases that are treated early in the course of the disease. The most important thing to remember prior to tattooing is to be sure the inflammation is well under control. Otherwise, the tattooing will only aggravate the inflammation.

Sun-screening agents have also been used such as quinacrine hydrochloride, which is given orally at a dose of 50 mg., 2 to 3 times a day for one month, after which the dose is reduced to 50 mg. once

or twice weekly. Para-aminobenzoic acid has also been used successfully as a sun-screening drug at a dosage of 2 gm., 4 times daily. The disadvantage of these drugs is the number of times they must be given.²

Summary

The most important factor in treating "collie nose" appears to rest on the importance of getting treatment started early and keeping it up at regular intervals. Another thing to remember is that since this is an inherited abnormality it is not advisable to use dogs with this problem as breeding stock. However, with proper management and therapy, this is a disease which we, for all practical purposes, can keep fairly well under control.

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Degenerative Myelopathy in the German Shepherd

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Older large breed dogs, primarily of the German Shepherd type, may be presented with progressive ataxic spastic paresis.

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There seems to be no sex predominance. The lesion found on necropsy is diffuse degeneration of spinal cord myelin and axons in all fiber tracts, most extensive in the mid-thoracic region, but not associated with intervertebral disk herniation,