

## **ALOPECIA X**

### **HOW YOU CAN HELP WITH THE RESEARCH INTO ALOPECIA X**

Rosario Cerundolo is currently undertaking a research study into Alopecia X and would like to gather data on Chow Chows that have been diagnosed with Alopecia X and successfully treated. Rosario also asks if there are any owners who would be interested in having their chow treated for Alopecia X that they contact him at Dick White Referrals, Station Farm, London Road, Six Mile Bottom, Cambridgeshire, CB8 0UH. Telephone 01638 572012 or email [roscervetderm@gmail.com](mailto:roscervetderm@gmail.com) . There would be no charge for the consultation; the only charge would be for the diagnostic tests which would be covered by most insurance policies if the dog is insured.

The owners/breeders can contact Rosario directly, but asks that if Rosario is to see their dogs their own veterinary surgeon is informed as a courtesy. If the owners/breeders are based too far from East Anglia, Rosario will liaise with their vet for any test that may be needed to confirm Alopecia X before starting the implant.

### **Extracts from an article written by Rosario Cerundolo**

Alopecia X describes a form of adult-onset alopecia that is generally found in Nordic Breeds and may also affect the Chow Chow. It is not proven that Alopecia X is a single disease entity with similar causes and pathogenesis and typically starts in young adult animals between 1 and 3 years of age but has been found in puppies as young as 9mths and senior dogs with a predisposition for intact males.

It is suspected that there is a genetic predisposition to a hormone production defect or abnormal hormone action on the hair follicle. The argument for a defect in sex hormone production is supported by hair regrowth in affected dogs following neutering or treatment with products that affect sex hormone production.

### **Clinical Signs**

Alopecia X is a disease that exclusively affects the hair coat and skin of dogs. Dogs are normally healthy. If there are signs of systemic disease, other endocrine diseases should be suspected.

Initially there is sparse loss of guard hairs resulting in a dull, dry coat. Sometimes a more generalized loss of guard hairs gives the coat a “puppy” appearance. The hair coat may also appear lighter or a different colour with the loss of guard hairs. Hair loss may be noted first in frictional areas such as around the neck, tail head region, and caudal thighs, and these areas become more severely involved with time. The progression from early changes in hair coat to complete hair loss may take several years in some dogs. The retained secondary hairs are also lost with time, which results in complete alopecia of the affected areas. The exposed skin may become hyperpigmented. It is likely that the increased pigmentation is the result of sun exposure and can be minimized with sun restriction or use of clothing. Owners may first become aware of the problem when the dog’s hair coat fails to regrow after clipping. This can also be seen in endocrine diseases or in Nordic or plush-coated breeds that were shaved during the normal telogen phase of the hair cycle. Hair regrowth is often seen in areas of trauma (e.g., skin scraping or biopsy sites). Secondary skin infections are rare in this condition.

### **Diagnosis**

There is no test that can definitively diagnose alopecia X in a dog. Only after other endocrine diseases such as hyperadrenocorticism, hypothyroidism and hyperestrogenism as well as breed-specific hair cycle abnormalities, colour dilution alopecia, black hair follicular dysplasia, telogen effluvium, and anagen effluvium should be ruled out. Sometimes affected dogs have thyroid test results suggestive of hypothyroidism (low total thyroxine level), but other thyroid test results are normal. In those cases thyroid supplementation fails to cause hair regrowth.

Skin biopsies are helpful to support the diagnosis of alopecia X and are useful to rule out inflammatory causes of the alopecia. Histologically, there is orthokeratotic hyperkeratosis, epidermal melanosis, follicular keratosis, and follicular dilatation. Hairs have excessive

trichilemmal keratinization (flame follicles), a sign of late catagen suggesting catagen arrest. Hair regrowth may occur at the site of the biopsy.

It is reemphasized that this disease is one in which diagnosis can be difficult because none of the tests described earlier is pathognomonic for alopecia X. However, the aforementioned battery of tests should be useful in the workup and help to rule out other causes of the alopecia.

### **Treatment**

The pros and cons of each therapeutic option listed in the following sections must be explained to the owner because alopecia X is a cosmetic disorder. "Benign neglect" could be an option and may be the best treatment. The various medical and surgical treatments, sometimes contradictory, reflect the difficulty in treating this type of hair loss. The following therapeutic options are currently recommended to the owners of affected dogs:

#### Neutering

Castration may lead to hair regrowth in a few weeks (Rosser, 1990). Although response may be complete, the owner should be warned that some animals relapse and lose their hair again after a few years. Although less well documented, hair may also regrow in females following ovariectomy. In addition to castration several other therapies ( melatonin, trilostane) have been tried often without much success and the new study may prove to be successful in promoting hair regrowth BUT not curing the disease

#### Reference:

**Cerundolo R.** Alopecia X. In Bonagura JD and Twedt DC (eds) Kirk's Current Veterinary Therapy XIV. Saunders WB. Chapter 115, 2013