

The life and health of Westies improved:

The First Step in the Long Search for the Mutation Causing Atopic Dermatitis in Westies

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Summer, 2005

In dogs and people, atopic dermatitis (AD) is a chronic skin disease caused by a genetic tendency to develop allergies to pollens, house dust mites, molds, foods or other substances. Exposure to these allergens causes skin redness and other lesions that result from scratching, chewing, biting or rubbing. In dogs, lesions develop at specific skin sites that include the face, ears, neck, armpits, groin, tail, perineum, folds of the joints and feet.

As AD has a genetic cause, it is especially prominent in families carrying the trait. At this time, there are several genes that are suspected to cause the disease in humans. In dogs, there is evidence suggesting that AD also has a genetic background. Results from numerous studies have suggested that Westies are predisposed to develop this problem, both in the USA and European countries. It is suspected that a gene mutation arose in the past century, before Westies were brought to North America, and that from then on, it spread to multiple family groups. Recently, a health survey from the Westie Foundation reported a possible frequency of the disease of 15% in this breed.

If the mutation(s) causing AD in Westies were to be discovered, a genetic test could be proposed to breeders to test puppies before they are bred. Ultimately, such test could help in eliminating AD from this breed.

Unfortunately, before determining which dog is a carrier of the trait, we need to know what gene is involved... but there are probably hundreds of potential candidates! Luckily, a collaboration has been set-up between the Westie Foundation and researchers at North Carolina State University, with the long-term goal of finding the genetic cause of AD in this breed. A Task Force on Canine AD has been established by the Westie Foundation to help advertise for this project.

The very first step in this quest is knowing how the disease is transmitted genetically. In February 2005, the Canine Health Foundation of the American Kennel Club provided some funding (ACORN grant) to help jumpstart this project. NCSU dermatologists are now looking to obtain pedigree information and DNA from selected family groups. Once these goals are achieved, funding will be sought to find out which part of the canine genome is linked with the trait. Ultimately, candidate genes will be tested for linkage with the disease.

At this time, researchers are looking for family groups with both affected and normal looking Westies. It is best if dogs from at least two or three generations of the same family are available – or can be contacted - for completion of a questionnaire and, if qualifying for the study, giving blood for allergy testing and DNA isolation.

If you have a Westie with AD and would like to participate in this study, please contact Dr. Thierry Olivry at: tolivry@ncsu.edu.

If you would like to know more about this study, contact Ms. Ann Marie Holowathy from the Westie Foundation Atopic Dermatitis Task Force at: aholowathy@msn.com.

All information about allergic dogs and families will be kept confidential and will not be shared with other breeders or the general public.