

Tracking Our Progress...CMO

Summer 2004, *NEWS*

CMO RESEARCH PROJECT TO CONTINUE

Craniomandibular Osteopathy, a noncancerous growth of bone on the lower jawbone, has long been a problem affecting the West Highland White Terrier. In 1998, the AKC Canine Health Foundation approved a proposal from Dr. Patrick Venta of the College of Veterinary Medicine, Michigan State University, to find the genetic linkage marker for CMO as the disease is more often called. The Westie Foundation of America, Inc., together with the Health Trust Fund of the Scottish Terrier Club of America and the Foundation of the Cairn Terrier Club of America, each committed \$10,000 over a two-year period to help fund this project; the AKC/CHF provided matching funds. This was one of the very first research efforts to receive Foundation funding.

At the conclusion of the two-year obligation, each of the three sponsoring foundations as well as the AKC/CHF approved a third year of funding and the goal was switched from finding a linkage marker (usually accurate 85-90% of the time) to finding the direct genetic marker (with virtual 100% accuracy). Many genes were investigated but each one failed to be the mutant gene. Research work slowed at this time although it never completely ceased.

Recently, two events have occurred in the genetic research field that have rekindled the CMO project flames. The first occurred with the completion of the canine genome map and its subsequent publication in June 2004. This was a dramatic and major step forward that will significantly improve the efforts to find the genetic marker not only for CMO but also for many other genetic diseases affecting canines.

The second event was the development of an automated genotyping tool that is much faster and less expensive than the labor-intensive gel-based method. This will enable a greater number of genes to be tested in much less time. Combined with the canine genome map completion which incorporates a large set of a new type of genetic marker called the SNP (an abbreviation for single nucleotide polymorphism and pronounced 'snip'), the odds of success for finding the direct genetic maker for CMO should be significantly improved.

The health organizations of the Cairn, Scottish, and Westie breeds have tentatively agreed to fund a new grant proposal from Dr. Venta to complete this important work. We will continue to keep you informed on developments.

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