

'Westie' dogs research may hold answers to similar human diseases

July 18 2011

The Westie Foundation of America (WFA) announced today preliminary findings in two major studies involving the health of West Highland White Terriers also known as Westies. Findings in these and other studies of Westies and other dogs may hold answers for similar human conditions like Inflammatory Bowel Disease (IBD). The studies are jointly funded by the WFA and the AKC Canine Health Foundation (CHF).

In one study, researchers are looking at the role of a mucosal gene driving inflammation Canine IBD, a chronic intestinal disorder that creates a bacterial-driven inflammation in the intestines. In the second, scientists are researching Legg-Calve Perthes Disease (LCPD), a debilitating developmental disease that causes pain, lameness and [muscle atrophy](#) of the dogs' hip joints. Both are considering implications for humans since the diseases share commonalities in disease symptoms and pathology.

In IBD, genetic factors are thought to contribute to the cause of the disease in both dogs and humans and researchers are utilizing unique molecular biology tools to identify key genes which regulate [intestinal inflammation](#), similar to human IBD.

"It is our expectation to identify specific genes which serve as biomarkers for diagnosing canine IBD and for monitoring the effects of therapy. We have now identified a grouping of 17 'marker' genes that may be more critically assessed in future studies," said Albert E. Jergens,

DVM, PhD of Iowa State University, the study's lead investigator. "We have preliminary evidence that changes in the composition of the [intestinal bacteria](#) accompany the [abnormal gene](#) patterns...this situation is remarkably similar to the association between people and their intestinal populations causing human IBD (i.e., Crohn's disease and ulcerative colitis)."

LCPD is an orthopedic disease that may require surgery to relieve the clinical signs. Researchers are using a high-throughput technology to assess nearly 127,000 points in the dog genome. The goal of this project is to identify genes that contribute to the development of LCPD.

Preliminary study findings show LCPD may be inherited in much the opposite way previous studies have shown. Earlier studies suggested LCPD is transmitted in an autosomal recessive pattern. "Our current data suggest the LCPD is inherited in either a dominant or complex fashion," said Keith E. Murphy, PhD of Clemson University. "Only with more samples will we begin to understand the genetics controlling LCPD." The investigators currently have samples from 58 Westies, 23 of which have LCPD. One candidate gene identified in humans was investigated in canine LCPD, but was not associated with LCPD in Westies. The results of the candidate gene analysis will be published later this year.

"We are pleased to see such progress in the study of Westies and are even more excited that our work may contribute to human disease research, as well," said Bebe Pinter, president of WFA. "We anxiously await final results in these studies and in other studies currently being funded by WFA and CHA and look forward to continuing our commitment to research and funding for Westie health."

Provided by Westie Foundation of America

Citation: 'Westie' dogs research may hold answers to similar human diseases (2011, July 18)
retrieved 23 April 2024 from
<https://medicalxpress.com/news/2011-07-westie-dogs-similar-human-diseases.html>

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