

NTCA Health Committee

Spring Report, March 22, 2022

Jane R. Schubart, Chair

Norwich Terrier Breed Health Survey

Jane wrote an article for the AKC Gazette, published in the February 2022 Breed Columns, titled “*How long will my Norwich live? Insights from the breed health survey*”. This article provides mortality data and draws attention to the high proportion of overweight dogs in the sample.

Norwich Terrier Upper Airway Syndrome (NTUAS Study)

Dr. Grace Lai plans to submit the NTUAS Study manuscript this summer and will be the first author (Dr. Bryden Stanley will be the corresponding author). The manuscript will go to Veterinary Surgery, the top journal in the surgical fields.

NTUAS Genetic Study (MSU): MSU Preliminary Work

In preliminary work, 22 dogs were genotyped and GWAS conducted. Some interesting regions emerged but nothing was significant. Subsequently, the MSU team genotyped DNA samples collected in Dr. Stanley’s study for the mutation in *ADAMTS3* and found the same pattern reported by Marchant et al. (2019). Next, they identified 8 dogs from the study and did whole genome sequencing. Since the last report, this data has been analyzed, but nothing obvious emerged. The geneticist returns from maternity leave in May and will focus on this project in the summer. NTUAS is looking like a complex disease, and the analysis is muddled by *ADAMTS3*. The next step involves sequencing additional dogs.

Characterizing Developmental Lung Disease as a Cause of Sudden Death in the Norwich Terrier

We reported in October 2022 that the initial attempts GWAS failed to identify a genetic basis. Since then, genomic DNA from 4 Norwich terriers were sequenced to ~30X coverage using the Illumina Novaseq60. Variants in 2 candidate genes were found, however, these variants were present in only 1 affected dog and present in control dogs. In noncoding exons of the candidate genes, 3 variants in 2 genes were found which were unique to only 1 affected dog (not in control dogs but also not in the other 2 affected dogs). Dr. Kurt Williams relocated to Oregon State this month and will continue this work. This is a complex disease.

We have 3 new projects underway:

Reproduction Health Breed Survey

The questionnaire survey is nearly complete. Next step is to put it in SurveyMonkey.

Exercise Tolerance Test (ETT)

This pilot study will be conducted by NTCA members in Texas to test the feasibility of the ETT as a simple, noninvasive screening test for NTUAS. Dr. Lynelle Johnson provided protocol assistance. Jane will meet with Dr. Kelley Thieman on 3-24-22.

Breeder Panel Discussion

We are planning a zoom Breeder Panel Discussion for the NTCA membership.