RESEARCH PROGRESS REPORT SUMMARY

Grant 02176-A: Intralymphatic Immunotherapy for the Treatment of Canine Atopic Dermatitis

Principal Investigator: Dr. Andrea Lam, DVM

Research Institution: Tufts University

Grant Amount: $12,113.82

Start Date: 7/1/2015 **End Date:** 1/31/2017

Progress Report: Mid-Year 2

Report Due: 1/31/2017 **Report Received:** 1/17/2017

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Original Project Description:

Atopic dermatitis (AD) is a genetically predisposed inflammatory skin condition affecting approximately 10% of dogs globally and is probably the most prevalent skin disease in all canines. Affected dogs manifest with itchy skin and ears and secondary infections. Clinical features are associated with IgE antibodies produced against indoor/outdoor environmental allergens. Breeds such as Boxers, Terriers, Retrievers, and Bulldogs are predisposed.

Current treatment options include antihistamines, corticosteroids, cyclosporine, oclacitinib, and allergen-specific immunotherapy (ASIT), as well as adjunctive topical and antimicrobial therapy. Antihistamines are effective in about 25% of dogs. Corticosteroids are extremely efficacious; however, side effects are common, thus long-term use is strongly discouraged. Cyclosporine is effective in many dogs with few serious adverse effects, but cost can be a limitation in large breed dogs. Oclacitinib has been shown to have good efficacy, but long-term side effects have not been studied. ASIT appears as the only treatment that is able to induce a clinical cure. However, the percentage of atopic dogs that respond to this treatment is only 60-70% and in many, the response is only partial.

It has been proposed that efficacy of subcutaneous ASIT is limited by the ability of the skin to stimulate the immune system. This study proposes to test an alternative route of administration using ASIT for this important skin condition. The investigator will test if direct administration of allergens into a peripheral lymph node may be more effective in stimulating an immunologic reaction, and thereby increasing the response rate, and potentially the cure rate, for canine atopic dermatitis.

Publications:

None at this time.

Report to Grant Sponsor from Investigator:

We have completed enrollment in the intralymphatic immunotherapy as a treatment for canine atopic dermatitis study.

The first enrolled patient has recently completed the 12-month review with excellent results. The owner has reported a complete lack of observed clinical signs for the first time since the dog developed atopic dermatitis. The second enrolled patient has unfortunately continued to struggle with relapsing infection. The third enrolled patient withdrew from the study following the first injection due to relapsing pneumonia (non-related). The final two patients are early in the post-treatment phase, thus it is too soon to tell how they will do long term.

No adverse reactions have been reported thus far and no complications have been associated with the simple protocol. With time, this may prove to be a novel and much more effective way to not only manage atopic dermatitis in our veterinary patients, but possibly provide a chance for cure.