RESEARCH PROGRESS REPORT SUMMARY

Grant 02287: Enhanced Testing for the Diagnosis of Bartonellosis in Dogs

Principal Investigator:	Dr. Edward B Breitschwerdt, DVM		
Research Institution:	North Carolina State University		
Grant Amount:	$103,013.00		
Start Date:	8/1/2016	**End Date:**	7/31/2017
Progress Report:	Mid-Year 1		
Report Due:	1/31/2017	**Report Received:**	1/31/2017

(The content of this report is not confidential and may be used in communications with your organization.)

Original Project Description:

Bartonellosis, a zoonotic bacterial disease of worldwide distribution, is caused by approximately 10 different Bartonella species. Bartonella are transmitted to canines and humans by ticks, fleas, lice, mites, and sand flies. Dr. Breitschwerdt's laboratory demonstrated the first evidence for Bartonella infections in dogs in 1993. Bartonella species have been associated with an expanding spectrum of important disease manifestations including anemia, endocarditis, hepatitis, lymphadenitis, myocarditis, thrombocytopenia and vascular tumor-like lesions. Infections can be life-threatening. Due to a lack of sensitive and reliable diagnostic assays, definitive diagnosis of bartonellosis in dogs remains a significant problem. Because these bacteria invade cells and infect tissues throughout the body, this chronic intracellular infection is difficult to cure with currently used antibiotic regimens. This study will develop improved serodiagnostic tests for bartonellosis in dogs. These assays can also be used for world-wide sero-epidemiological prevalence studies, and to establish early and accurate diagnosis. Dr. Breitschwerdt's research group has described concurrent infection in dogs, their owners and veterinary workers; this allows for a One Health approach to this important emerging infectious disease.

Publications:

None at this time.

Report to Grant Sponsor from Investigator:

The study is progressing according to our expectation. Preparation of antigen for IFA and WB for so many species of Bartonella is time consuming and somewhat contingent upon the ability of each species to tolerate the growth conditions imposed upon them and therefore unpredictable, but work is going well. The third specific aim is the most technically advanced and will take extra care in developing, but is expected to add significant information and advancement in serological modalities for diagnostics.