



Early Chronic Kidney Disease in Cats Study

Purpose of Study

The purpose of the study is to see if older cats with very early evidence of chronic kidney disease (CKD) are affected by oxidative stress compared to healthy cats. Cats commonly lose kidney function as they get older, and this change is irreversible and progressive. There is no cure for CKD, and little is known about how to prevent it or slow its progression, especially in the early stages. There is a relatively new blood marker of early kidney disease called symmetric dimethylarginine (SDMA). We already have some data which shows that oxidative stress, indicated by a compound called F₂-isoprostane present in the urine, may play a role in the worsening of CKD in the early stages. Oxidative stress results in an imbalance of reactive oxygen species and the body's natural antioxidant capacity, and these reactive oxygen species are toxic to cells. The results of this study could lay the groundwork to change our standard treatment recommendations by giving us evidence to institute treatment earlier, allowing cats with CKD to feel better longer and live longer.

Eligibility:

At this time, we are looking for cats with an increased SDMA who have a normal creatinine on blood work.

Specific inclusion criteria

- Cats must be ≥ 6 years of age and deemed healthy based on history and physical examination.
- SDMA ≥ 15 $\mu\text{g/dL}$
- Creatinine ≤ 1.5 mg/dL

Specific exclusion criteria

- Concurrent disease such as hyperthyroidism, urinary tract infection, diabetes mellitus, inflammatory bowel disease, liver disease, heart disease, cancer, or advanced kidney disease is not allowed.
- Cats cannot be taking any antioxidant supplements at home.
- Cats cannot be eating a diet fortified in antioxidants such as a kidney diet or diet for arthritis.

What does participation in this study involve?

Your cat will be screened for inclusion in this study with a chemistry panel and SDMA if these results are not already known. SDMA measurement is performed by an outside lab and may take 1-3 days to obtain results. If the specific inclusion criteria are met, cats may return to have a complete blood count, total T4 urinalysis, urinary F₂-isoprostane level, and abdominal ultrasound performed. The hair from your cat's abdomen will also be shaved for an ultrasound. If needed to complete the ultrasound, a standard dose of a sedative (butorphanol) will be given. No other follow up is required for this study.

Client compensation

This study will cover the cost of the physical examination, CBC, chemistry profile, urinalysis, total T4, SDMA, F₂-isoprostane, ultrasound, and sedation for the ultrasound if needed.

Client responsibilities

By participation in this study, owners ensure that there are no known concurrent diseases or antioxidants given to their cat.

Contact Information

Please contact Kris Richardson, Clinical Trials Coordinator at the Veterinary Health Center, for more information about this study. Phone: (785)-532-3046; email: ClinicalTrials@vet.k-state.edu