Assessment of bacteriuria and surgical site infections in dogs with cranial cruciate ligament injury

Purpose

To determine the prevalence of bacteria in the urine of patients with Cranial Cruciate Ligament (CCL) injury and to discover whether patients with asymptomatic bacteriuria have a higher risk of developing a surgical site infection in dogs that have undergone surgery.

Background

Bacteriuria is the presence of bacteria in the urine. Many times, bacteria in the urine indicates an underlying urinary tract infection (UTI). Patients with bacteriuria may experience symptoms such as increased urinary frequency, blood in the urine, or painful urination. A small population of dogs with bacteria in the urine display no symptoms of infection. These dogs are termed “asymptomatic bacteriuric.”

Research in human patients who undergo elective orthopedic procedures suggests that asymptomatic bacteriuric patients do not require post-operative antibiotics, nor are they at increased risk of surgical site infections. Our goal is to identify asymptomatic bacteriuric patients in dogs presenting with CCL injury and whether these patients are at risk for surgical site infections after surgery to repair a CCL injury. The results of this study could be used to guide veterinarians on timing of surgery and the discriminate use of antibiotics. Judicious use of antibiotics may decrease antibiotic resistance, unnecessary treatment and unwanted side effects.

Eligibility

- Male and female canine patients weighing > 10 kg (22 lbs.)
- Dogs must be free of lower urinary symptoms (increased frequency to urinate, straining to urinate, urine dribbling, blood in urine, and/or painful urination)
- Confirmed CCL injury

To be included in the second objective of the study, your pet must have surgical management of CCL injury at the VTH. The first 70 positive urine cultures and 70 negative urine cultures will be included for follow up.

Exclusion Criteria

- Patients with an underlying medical condition or development of a medical condition that would make them more susceptible to UTIs (e.g. patients with neurologic disease, diabetic patients)
- Patients undergoing immunosuppressive therapy (i.e. steroid use, chemotherapy) prior to the 8-week follow-up examination without consultation of the primary investigators.
- Patients administered antibiotics prior to the 8-week follow-up examination without consultation of the primary investigators.
- Patients with a history of recurrent, recent or development of a urinary tract infection

Study Design

A small amount of urine will be analyzed for the presence of bacteria in all dogs with CCL injury. A questionnaire detailing any signs of lower urinary tract disease will be recorded. The first 70 positive urine culture patients and 70 negative urine culture patients will be included for follow up after surgery for CCL injury. Dogs that have undergone surgical repair of CCL injury are not routinely sent home on antibiotics. As part of the study, patients will not be treated with antibiotics post-operatively. Follow-up evaluations with repeat urinalysis and urine culture will be done at 8 weeks post-operatively. An owner questionnaire on limb use, incision healing and any signs of lower urinary tract disease will be recorded at 8 weeks and during phone follow-up at 6 and 12 months post operatively.

Compensation

Clients are responsible for the cost of CCL surgery, including the examination fee, hospitalization, surgery, anesthesia, analgesia, overnight care, e-collar, sling and diagnostic pre- and immediate post-operative radiographs, CBC/chemistry and urinalysis.
The cost of initial urine culture submission will be provided by the study in all enrolled dogs. Costs of the 8-week recheck will be at no cost for qualifying dogs (the first to be enrolled: 70 urine culture positive dogs and 70 urine culture negative dogs). It will include urinalysis and urine culture, post-operative radiographs, and sedation for enrolled dogs. On average, this represents a $325 value. Complications attributable to the surgical procedure are not covered by the study.

Contact

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