

Preventing Contralateral CCL Rupture

Dogs with cranial cruciate ligament rupture (CCLR) are at high risk for subsequent contralateral rupture. The disease process is likely multifactorial, and breed predispositions may be present. To date, there are no established preventative therapies to reduce the risk for CCLR in high-risk dogs. In laboratory models of CCLR, doxycycline has been shown to reduce osteoarthritis severity and inhibit degenerative collagenase activity. This prospective, randomized, controlled clinical trial investigated the effect of doxycycline on rate of contralateral CCLR (Co-CCLR) in dogs. Sixty-nine dogs were enrolled with unilateral CCLR and a stable contralateral stifle joint. Treated

dogs ($n = 32$) received doxycycline (7.5 mg/kg PO twice a day) for 6 weeks following TPLO of the unstable stifle joint. Dogs were monitored for 4 to 5 years to determine if Co-CCLR occurred. There was no treatment effect of doxycycline on the rate of Co-CCLR; Co-CCLR occurred in 53.1% and 48.6% at medians of 20 and 11 months in treated and control dogs, respectively. Increasing age decreased risk for rupture by 14.2% for each year. With every increasing kilogram of body weight and degree of tibial plateau angle, risk for rupture increased by 5.4% and 9.7%, respectively. Labrador retrievers were not significantly predisposed to CCLR.

Commentary

CCLR rupture has reached epidemic proportions in dogs, particularly in high-risk breeds (eg, Labrador retriever, rottweiler, Newfoundland). The disease process is not well-understood, and preventative treatment strategies remain elusive. Preliminary data from an earlier study has

suggested a protective effect of doxycycline on CCLR in dogs¹; however, the current study does not support a treatment effect. The risk factors identified for contralateral rupture are consistent with the body of literature. Further studies are clearly indicated to identify genetic risk factors as a mechanism to understand and eradicate this important detrimental joint condition in dogs. Novel alternative regenerative medicine approaches (eg, use of stem cell therapy or platelet products) are also targets of future research work.—*Jason Bleedorn, DVM, DACVS*

Reference

- Hayashi K, Frank JD, Manley PA, et al. Doxycycline treatment for cruciate disease: A clinical trial in 12 dogs. Proceedings of the European College of Veterinary Surgeons 14th Annual Scientific Meeting; July 7-9, 2005; Lyon, France. pp. 444–445.

Source

von Pfeil DJF, Sung J, Barry J, Hayashi K, Edwards MR. Effect of doxycycline on contralateral canine cranial cruciate ligament rupture. *Vet Comp Orthopaed Traumatol*. 2015;28(6):371-378.

Alternative Bladder Biopsy Technique

A 5-year-old, 34.4-kg spayed dog was presented with subacute hematuria and stranguria that did not resolve after a 14-day course of ciprofloxacin. On ultrasound, an irregular 2.75 × 4.79-cm mass was found in the cranioventral aspect of the urinary bladder. The dog was sedated, and a 41-cm, 10-Fr rubber catheter with the blind end cut off was passed into the urethra. The patient was then placed in dorsal recumbency and saline infused through the urinary catheter to distend the bladder. The rubber catheter was advanced via ultrasound guidance and was aligned with the bladder mass. Flexible wire ellipsoid cup biopsy forceps (190 mm × 1.8 mm) were

threaded through the rubber catheter until they were visualized exiting the catheter. The forceps and catheter were advanced as a unit, and a biopsy was obtained. The biopsy forceps were withdrawn from the rubber catheter to retrieve the biopsy sample and the process repeated to obtain multiple biopsies. There were no complications, and the patient was discharged several hours later. Histopathology was consistent with polypoid cystitis. The polyp was surgically removed, and histopathology confirmed the diagnosis. The authors conclude that this technique is a noninvasive option for obtaining urinary bladder mass biopsies, especially when general anesthesia is contraindicated or cystoscopy is not available. Limitations include lack of direct visualization, risk for hemorrhage, and patient size.

Commentary

This is an ingenious solution to a common problem. Ultrasonography is becoming a frequently used tool in

general practice but is also readily available on a referral basis. Lesion location is likely the biggest limitation because the catheter follows a pretty standard path. The size and material the biopsy forceps are made from could also cause instrument artifacts affecting visualization, but this was not an issue in the case presented. Cystoscopy, while allowing direct visualization, has its own limitations and requires a variety of scopes depending on the size and gender of the patient. As the procedure can be done in the awake or sedated patient, it could be an excellent first choice with cystoscopy as a backup if unsuccessful.—*Eric R. Pope, DVM, MS, DACVS*

Suggested Reading

Morgan M, Forman M. Cystoscopy in Dogs and Cats. *Vet Clin Small Anim*. 2015;45(4):665-701.

Source

Lopez J, Norman BC. Ultrasound-guided urinary bladder biopsy through a urinary catheter in a bitch. *JAAHA*. 2014;50(6):414-416.