

## Treating Patellar Ligament Desmitis

Patellar ligament inflammation has been reported to follow tibial plateau leveling osteotomy (TPLO) procedures. While self-limiting, severe cases can result in marked lameness and prolonged recovery. Based on favorable



results for shock wave therapy (SWT) of tendon and ligament injuries in other species, a clinical trial was conducted in dogs to determine if SWT would have a beneficial effect on patellar ligament inflammation following TPLO. Thirty large-breed dogs admitted for spontaneous unilateral rupture of the cranial cruciate

ligament were included. The affected stifle was examined on radiographs and ultrasound preoperatively and at 4, 6, and 8 weeks after TPLO. Patellar ligament thickness on a lateral radiographic projection was measured at one-quarter, one-half, and three-quarters of the distance from origin to insertion. Although no dogs had obvious clinical signs of patellar desmitis, radiographic evidence was noted in 93% of the dogs based on 4-week postoperative radiographic measurements. At weeks 4 and 6, dogs in the treatment group ( $n = 19$ ) were treated with SWT. A significant difference in thickness between groups at the distal point was reached at weeks 6 and 8 postoperatively. Ultrasound images evaluated for patellar ligament disruption and periligament edema showed no significant difference. Based on these findings, SWT can accelerate resolution of radiographic signs of patellar ligament desmitis and should be considered for treating patellar desmitis after TPLO.

### Commentary

It was interesting that SWT had no appreciable effect on the ultrasonographic appearance of the patellar ligament in this series. Constructing a potential rationale for the lack of difference, the authors referenced a study that showed tendon disruption and degraded collagen in normal ligaments of ponies following treatment. Based on these results, caution must be used before trying SWT routinely following TPLO. However, given the results of the radiographically measured thickness of the ligament in this study, the authors state that SWT should be considered in the treatment of patellar ligament desmitis.—*Jonathan Miller, DVM, MS, DACVS*

### Source

The effect of shock wave therapy on patellar ligament desmitis after tibial plateau leveling osteotomy. Gallagher A, Cross AR, Sepulveda G. *VET SURG* 41:482-485, 2012.

## Anticoagulants in Multiplate Analysis

Knowing whether a patient will bleed in surgery or the disorder has impact on hemostasis or thrombosis can help treatment and management decisions. This study investigated the performance of the Multiplate platelet function analyzer using 3 different anticoagulants and evaluated optimal assay time. Blood samples were collected from 20 clinically healthy staff- or client-owned dogs into citrate, hirudin, or heparin tubes. The effect of the anticoagulant in response to platelet agonists was examined. Four analyses were performed on every blood sample using adenosine diphosphate (ADP), collagen, and arachidonic acid as agonists (0.9% NaCl as control). Significant spontaneous aggregation was noted in hirudin, but not in heparin or citrate; thus, samples should be carefully evaluated if hirudin is used. Weak aggregation response was noted in citrate samples, supporting previous findings that discouraged its use as an anticoagulant for Multiplate analysis. Results indicated that heparin is the better anticoagulant in Multiplate analysis. No additional diagnostic performance was gained from analysis exceeding 12 minutes in healthy individuals.

### Commentary

While these types of analyzers are not currently available for in-hospital use, they may become more widely used. As with many types of coagulation and platelet function testing, type of anticoagulant and agonist can influence results. These types of studies help establish a testing protocol best suited to each species. Multiplate platelet analyzer testing methodology may mimic in vivo coagulation and result in more accurate platelet function assessment. This testing is generally used to assess medication efficacy or determine if a surgical patient will bleed or be prone to thrombosis.—*Sarah Gray, DVM, DACVECC*

### Source

Evaluation of platelet aggregometry in dogs using the Multiplate platelet analyzer: Impact of anticoagulant choice and assay duration. Marschner CB, Kristensen AT, Spodsborg EH, Wiinberg B. *JVECC* 22:107-115, 2012.