

Cranial Tibial Wedge Osteotomy for Treatment of Canine Cranial Cruciate Ligament Injury in Dogs with Over 15 kg

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To report a technique for surgical alteration of the slope of the tibial plateau (tibial plateau angle, TPA) by a cranial tibial wedge osteotomy (CTWO) for repair of the canine cranial cruciate ligament (CCL) injuries and to determine the outcome.

CCL injury was treated by lateral stifle arthrotomy, removal of CCL remnants, and appropriate meniscal surgery. CTWO was performed to remove a wedge of bone from the cranial aspect of the tibia. The osteotomy site was reduced and stabilized using a bone plate and screws applied to the medial surface of the tibia. Medical records of dogs that had CTWO were reviewed. The age, weight, OA scores, initial TPA, final TPA and complications were examined. Dogs were evaluated at 6 weeks, 6 and 12 months by complication assessment, lameness scores, stifle range of motion (ROM), thigh circumference, radiographic assessment, degenerative joint disease (DJD) scores, and surgeon and owner evaluation of function.

Mean pre- and postoperative TPA was 31.8 degrees and 5 degrees, respectively. Postoperative surgical complications were documented in 1 case; implant loosening and seroma formation. Mean time to documented radiographic healing was 18 weeks. follow-up examination of limb function (mean, 23 weeks postoperatively) was recorded as no lameness in 6 cases and mild lameness in 1 case. All interviewed owners were satisfied with outcome and reported marked improvement or a return to preinjury status.

CTWO provided a satisfactory clinical outcome in dogs over 15 kg with CCL injury and the complication rate was similar to tibial plateau leveling osteotomy (TPLO).

Intra-articular or extra-articular techniques has been associated with substantial shortcomings. CTWO may prevent cranial translation during weight bearing in dogs with CCL rupture by converting axial load into caudal tibial thrust. clinical outcome of CTWO was useful and effective treatment choice in dogs with over 15 kg, with high owner satisfaction rather than intra-articular or extra-articular techniques.

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