Bone Deformity Associated with Medial Patellar Luxation

The need to characterize and understand the contribution of femoral and tibial bone deformity associated with medial patellar luxation was recognized by Putnam and Singleton fifty years ago (1, 2). For a very long time we struggled to comprehend this problem because the only means to image these bones non-invasively was radiology. Two-dimensional radiographic images were subject to projection artifact, and poorly illustrated the three-dimensional geometry of these bones. As a result, lots of theories existed about the possible contribution of bone deformity to medial patellar luxation such as femoral neck anteversion, femoral torsion and distal femoral varus.

Fortunately, the advent of computer tomographic imaging has made the multiplanar, three-dimensional reconstruction of images of bones a clinical reality, making the analysis of bone deformities more straightforward. Consequently, we are starting to realize that there are many variations in bone conformation in dogs with medial patellar luxation that need to be considered prior to undertaking corrective surgery, especially in large breed dogs. Two studies reported in this issue of the Journal evaluated bone conformation using computed tomography in two types of large breed dogs, and found some varying results (3, 4). This is really valuable information that helps us to understand the value of computed tomography in making a patient-specific plan for treatment of medial patellar luxation, especially in different breeds of dogs. Of course this is only the start, because we also need to consider the actions of muscle forces and joint rotation in their contribution to medial patellar luxation.

As you will read in this issue of the Journal, there are also other papers related to problems of medial patellar luxation and cranial cruciate ligament disease, as well as various other topics (5, 6). I hope you enjoy delving into this new information, and thinking about its implications!

With best wishes,

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References


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