Successful Simultaneous Repair of Bilateral Luxated Patellas in a Mature Alpaca

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A 4 year old, 62 kg female alpaca was presented to the Veterinary Teaching Hospital of Oregon State University (OSU-VTH) for evaluation of a sudden onset of unwillingness to walk and inability to remain standing. She preferred to remain crouched. Her weakness and discomfort did not respond to an intravenous injection of Banamine by the referring veterinarian, so she was brought to the OSU-VTH.

On physical examination, the alpaca had normal vital parameters. She had to be coaxed to stand and walk, and when she did so, it was noted her stifles and hocks rotated outward, and she assumed a crouched appearance as a result of apparent increased flexion of the stifles. There appeared to be a significant level of pain present when approached and palpated.

Her owner agreed to sedation, examination, radiographic imaging and computed tomography (CT) of the spinal regions. Once sedated, we conducted an orthopedic examination which revealed dynamic bilateral lateral luxation of each patella. The patellas could be luxated medially during manipulation, but would preferentially luxate laterally when the stifle was flexed. The left patella felt less stable than the right patella. The patellas resumed a normal cranial position over the stifle when the limb was extended and would only luxate laterally during flexion of the stifle when manipulated, or while walking. Femoropatellar effusion was present and considered moderate. Radiographic imaging was performed. There was evidence of mild osteoarthritic changes and on the “flexed skyline” we noted normal appearance and depth to the trochlear groove. The CT examination revealed no spinal abnormalities.

Surgical intervention was recommended to stabilize the patellas. Using two surgical teams working simultaneously, the stifle joints were accessed, evaluated, and found to be normal. Trochlear block recession was performed initially followed by lateral release of the gluteobiceps tendon and joint capsule, and imbrication of the joint capsule and soft tissues. Since lateral luxation was more common clinically, the release and imbrication procedures were adjusted to minimize lateral luxation. The procedures went well and the patient recovered from anesthesia without complications. A fentanyl patch and nonsteroidal anti-inflammatory medications were utilized for analgesia.

Postoperatively, aggressive physical therapy was initiated. The patient received physical manipulation, electrical stimulation (E-stim), and therapeutic laser once a day for three days and then bi-weekly for 2 weeks. Physical therapy consisted of flexing each stifle multiple times while recumbent, standing and walking twice daily, initially with the use of a sling, and eventually turnout in a 10 foot x 10 foot enclosure. The electrical stimulation was utilized to minimize muscle atrophy and maintain muscle tone. Therapeutic laser reduced inflammation and mobilized edema. Patient comfort and use of the limbs were initially outstanding, but during the early postoperative period (8 days postop), it was noted she became reluctant to stand and use the right limb. Medial patellar luxation was palpable and we were concerned about the stability of our repair. Additionally, synovial fluid drainage was noted within 24 hours after discovering medial patellar luxation.

With the owner’s consent, we re-operated the right stifle and discovered a fractured medial trochlear ridge. After operative discussion, the fragment was discarded and patellar stability was re-accomplished using two lateral
retaining sutures and re-imbrication. This second surgery on the right hind stifle went well and has proven to be successful. There is no drainage from the joint and the patient was walking well, with stability in both stifle joints, at the time of discharge 14 days after the second surgery. The owner reported her female has regained weight, is comfortable standing for expected time periods, and is currently much more active in a smaller paddock with a herdmate.

Important discussion points of this case include the following:

1) Etiology for patellar luxation.
2) Optimal method(s) of repair for concurrent medial and lateral patellar instability. It is a dilemma.
3) Postoperative Care: Use of a sling; physical therapy (massage, flexion, e-stim, therapeutic laser and ultrasound).
4) Management of postoperative complications: medial instability; trochlear ridge fracture (remove or repair); incisional leakage.

Selected References: