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Meniscal and ligament injuries of the stifle

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Meniscal and ligament injuries are a frequent cause of stifle lameness in the horse. Meniscal and cruciate lesions were the primary diagnosis in 201 of 639 stifle arthroscopies in the author’s series. Other ligament injuries in the stifle include those of the medial collateral and patellar ligaments.

Diagnosis

Clinical signs of swelling and obvious joint pain are not frequently manifest in milder soft tissue injuries in the stifle and diagnosis of the site of lameness will often depend on diagnostic analgesia. Lameness is usually worsened by flexion of the upper limb but differentiation by manipulation tests is unrewarding. The different structures within the joint do not manifest specific signs when injured so radiography and ultrasonography should be performed once the stifle is established as the site of pain. Radiography is most useful in the chronic case. Ultrasonography is important for the specific diagnosis of medial collateral and patellar ligament injuries but has limitations when diagnosing meniscal and cruciate lesions because of artefact and accessibility problems. For these, in the absence of MR imaging, arthroscopy offers the most accurate diagnostic information.

General management

Stifle lameness that presents without radiographic or ultrasonographic changes, and therefore no specific diagnosis, is probably best treated with stable rest and intra-articular medication followed by re-evaluation in 6 weeks. If lameness has resolved, controlled exercise should commence but if there has been no improvement an arthroscopic investigation is indicated. If a meniscal or cruciate ligament injury is suspected radiographically or ultrasonographically at the outset, or if the injury is severe, arthroscopy may be indicated at the first examination.

Meniscal injuries

Clinically these do not differ from most other stifle lamenesses. Some meniscal and meniscal ligament injuries may be diagnosed ultrasonographically (Hoegaerts et al. 2005) but the clinician should be wary of false positive and false negative findings. Arthroscopic evaluation of the lesion is indicated. Loose tissue can be debrided and the joint evaluated for concurrent damage. Repair can be attempted in occasional cases. Some lesions will be inaccessible and this is a caveat when prognosticating the outcome. Of 126 meniscal injuries diagnosed arthroscopically at the author’s hospital, 80% involved the medial meniscus and there was concurrent articular cartilage damage in 96 horses. The prognosis was statistically worse if the lesion was severe, if there were radiographic signs or if there was concurrent articular cartilage damage (Walmsley et al. 2003). The most frequent radiographic sign was new bone formation on the medial intercondylar eminence of the tibia (MICET) and this was much more frequently seen than with cruciate injury. Rehabilitation involves 6 weeks’ stable rest with incremental hand walking exercise followed by 4 months’ rest in a small pen and no free paddock exercise until the horse has returned to full work. Overall 62% of mild and moderate cases and 10% of severe cases treated arthroscopically returned to full work.

Cruciate ligament injuries

Rupture of the cranial cruciate ligament (CrCL) in the horse is a devastating injury and usually warrants euthanasia. It is characterised by severe swelling and pain in the stifle. Less severe injuries are clinically similar to meniscal tears. As with these latter, mild cruciate injuries may go undiagnosed and this discussion is confined to those diagnosed at arthroscopy. Even experienced ultrasonographers have difficulty diagnosing cruciate lesions so the diagnosis usually depends on arthroscopy. In the author’s series, 72 cases involved the CrCL and only 4 involved the caudal cruciate ligament (CaCL). Most CrCL lesions were located mid body. Debridement of loose tissue is performed. Repair of ruptured CrCLs in horses has not been reported. Again concurrent damage can have a significant influence on the outcome as does the presence of radiographic change. In the author’s series, excluding horses with rupture of the CrCL, 33% of severe injuries recovered and 61% of horses with mild or moderate lesions returned to use.

Medial collateral ligament injuries

The medial collateral ligament is more commonly affected. Complete rupture manifests as acute, severe lameness with swelling and pain over the ligament and instability of the joint when the distal limb is abducted. Caudocranial stressed radiographs with the limb abducted reveal the instability. Sprained ligaments often show few specific clinical signs but there may be heat, pain and thickening over the ligament in some cases. Flexion tests are usually positive but intra-articular analgesia of the femoropatellar joint is often negative. Ultrasonography should confirm the diagnosis and radiography is useful in chronic cases that have developed changes at the origin and insertion of the ligament. Scintigraphy can also be a useful diagnostic aid. Horses with sprained medial collateral ligaments should be given anti-inflammatory drugs rested for 6 weeks and then start a controlled exercise regime if all is well. The prognosis is poorly documented but anecdotally it is considered poor if enthesophytes changes develop radiographically. The prognosis for ruptured ligaments is very poor. Repair has been attempted but is fraught with complications.

Patellar ligament injuries

These are infrequently diagnosed. The middle patellar ligament is most commonly injured and in some cases there may be an association with previous medial patellar ligament desmotomy. Lateral ligament injuries have also been reported (Dyson 2002). Localising signs may be absent but femoropatellar effusion, periarticular thickening, or oedema may occur in some cases. Intra-articular analgesia of the femoropatellar joint is often negative and diagnosis may depend on ultrasonographic findings. Scintigraphy may show increased radiopharmaceutical uptake. Six months’ rest is advocated and slow resolution of the lameness with occasional recurrence has been reported (Dyson 2002).

References

