Equine*Review*

Introduction: This edition of the Equine Review looks at an interesting study on straight and distal sesamoidean ligament injuries, the use of ethanol in distal limb antiseptic protocols and the detection time of tiludronic acid.

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Straight and distal sesamoidean ligament injuries

Hawkins et al (2021) have recently published a retrospective study into the clinical features and outcomes in horses with straight and oblique distal sesamoidean ligament injuries. Improvements in ultrasonography and magnetic resonance imaging (MRI) have improved detection of these injuries. This study included 51 horses, presented over a 17-year period. It found that lameness was usually unilateral and mild for both straight and oblique distal sesamoidean ligament (SDSL and ODSL) injuries. Horses with ODSL injuries were usually (79% of cases) painful on palpation of the proximal aspect of the ligament with the limb non-weight bearing, whereas 44% of horses with SDSL injuries were painful in the midline (over the deep digital flexor tendon). Horses with ODSL injuries tended to have fetlock or digital flexor tendon sheath effusions (67%); but this was the case in only 33% of SDSL injuries. Distal limb flexion exacerbated the lameness in 93% of cases.

Most horses (89%) improved with an abaxial sesamoid nerve block, with 83% improving with a digital flexor tendon sheath block. Ultrasound examination confirmed the lesions in 94% of SDSL cases and 77% of ODSL cases. Changes seen included ligament enlargement, a focal or diffuse region of hypoechogenicity, periligamentar fibrosis, Doppler activity and enthesopathy. MRI was also used in some of the cases and was able to identify lesions on 71% of ODSL cases and 73% of SDSL cases. Overall, SDLS injuries were more common in forelimbs (62% of cases) whereas ODSL injuries were equally distributed between forelimbs and hindlimbs, although, of the latter, 87% of hindlimb injures occurred in the lateral ODSL and 60% of the forelimb injuries occurred in the medial ODSL. The ODSL injuries were more likely to occur in the proximal third of the ligament whereas the SDSL injuries were more likely to occur in the distal two thirds of the ligament.

Treatment typically consisted of strict box rest followed by in-hand walking. Only 55% cases became sound within 12 months, of which 37% were sound within 6 months. Only 31% returned to their intended use and there was no difference in outcome between the ligaments injured. There are some useful images in the paper which will assist less experienced clinicians in identifying lesions.

Comparison of chlorhexidine and alcohol-based antisepsis of the distal limbs of horses

A study by Doyle et al (2021) has compared the efficacy of a 5-minute chlorhexidine scrub on a clipped limb, a 90-second wet application time of 80% ethanol scrub on a clipped limb, a 90-second wet application time of 80% ethanol spray on a clipped limb and a 90-second wet application time of 80% ethanol scrub on an unclipped limb. All sites were allowed to dry for 2 minutes before being sampled and the number of colony forming units (CFU) were assessed after being plated out and incubated at 35° for 48 hours. Samples were also taken before each limb preparation.

No significant difference was found between forelimb and hindlimbs within each treatment group. In the forelimb, no significant difference in reduction of CFU was found between groups. Interestingly, in the hindlimbs, the limb prepped with chlorhexidine had a significantly greater reduction in CFU, compared to the limbs prepped with the ethanol spray and the ethanol scrub on the unclipped limb. There was no significant difference in the limbs scrubbed with chlorhexidine and ethanol when clipped. No skin reactions were seen at any site. The cost of the chlorhexidine scrub was noted to be higher than the other treatments.

This study shows that 80% ethanol applied as a 90-second scrub to a clipped site on the distal limb of horses is not significantly different to a 5-minute chlorhexidine scrub in terms of reducing bacterial counts. The authors point out that with recent concerns regarding the contribution of chlorhexidine-based antisepsis to the development of antimicrobial resistance, their use is recommended to be restricted to situations where they cannot be replaced with a good alternative. The authors also stressed that further investigation into the residual activity of alcohol-based antisepsis is needed before it can be recommended for surgical site preparation in horses.

Detection of tiludronic acid after last administration

Riggs et al (2020) have reported on the duration that tiludronic acid remains detectable, following administration to 24 thoroughbred racehorses. Tiludronic acid was detected in urine and plasma samples collected from all 24 horses, including two horses that were administered a clinical dose of tiludronic acid more than 3 years earlier. In Great Britain, the British Horseracing Authority states that any horse below the age of 3 years and 6 months that is administered a bisphosphonate drug will not be qualified to run under the Rules of Racing at any point in its life. The ability to detect the drug for such a long period after administration has important ramifications for the regulation of this product in the field. EQ

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