The Dreaded Hind Limb Suspensory Desmitis

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Proximal suspensory desmitis (PSD) in the hind limb is diagnosed in racehorses, eventers, show jumpers, western performance horses, among others. With advances in diagnostic imaging over the past 10 years, the number of horses diagnosed with hind PSD has increased.

The condition results in either an insidious or a sudden onset lameness that may be mild or severe. Some horses show poor performance rather than a recognized lameness. In contrast to the forelimb, lameness may persist and remain severe, despite restriction to stall rest. The incidence of bilateral lesions is higher than in forelimbs.

PSD in the hindlimb occurs in horses in all athletic disciplines and of all ages and is a particular problem in dressage horses working at advanced level. Horses with straight hock conformation or hyperextension of the metatarsophalangeal joint appear predisposed to injury. Hyperextension of the metatarsophalangeal joint may develop as a sequel to PSD. A long-toe and low-heel conformation also may be a predisposing factor. Horses with acute PSD may have localized heat and swelling and pain on pressure applied to the SL, but often no localizing clinical features are apparent, also because riders are in general less aware of abnormalities in the hind limb than in the fore limb. Lameness is often characterized by a reduced height of arc of foot flight, with or without intermittent catching of the toe. The cranial phase of the stride may be shortened. Lameness may be accentuated by proximal or distal limb flexion. Bilateral pathology may result in poor hindlimb action rather than obvious hindlimb lameness. Lameness is often more obvious when the horse is ridden.

Lameness usually is improved by perineural anesthesia of the medial and lateral plantar metatarsal nerves or the deep branch of the lateral plantar nerve distal to the tarsus, but lameness may not be alleviated fully. Improvement is usually seen within 10 minutes of injection. Subtarsal analgesia may alleviate distal hock pain and vice-versa.

High quality imaging is necessary to make a diagnosis. Ultrasonography is helpful, inexpensive and readily available, but not very sensitive. Magnetic resonance image gives the best detail on anatomy and pathology. Soft tissue scintigraphy may or may not reveal any abnormalities depending on the duration of the disease.

Treatment options include conservative management (rest and rehabilitation, extracorporeal shockwave treatment, intralesional therapy, corrective trimming) and surgical treatments (neurectomy of the deep branch of the lateral plantar nerve, plantar fasciotomy, tibial neurectomy).

The prognosis has traditionally been poor for horses treated conservatively unless the lesion is very acute and focal. Only 14% of horses returned to soundness and remained sound for more than 1 year following conservative treatment according to a study (Dyson 1994).

Extracorporeal shockwave treatment consists in pressure waves that can be focused at a specific site within the horse’s body. Through cavitation, this treatment causes a release of angiogenic growth factors. According to a study (Lischer et al. 2006), the short-term (<6 months) success rate for this treatment is as high as 41%, but it drops to only 18% when horses are followed up for longer than 1 year.

Intralesional injections of stem cells, bone marrow or platelet rich plasma have been advocated and are commonly used. The success rate for these treatments in this particular disease is not well established, although it would appear reasonable to use them in cases where a focal lesion can be identified.

Neurectomy of the deep branch of the lateral plantar nerve in combination with a fasciotomy is the most common treatment for chronic hind PSD, with a reported success rate that varies between 62 and 91%. Horses that have a normal conformation respond very favorably to the procedure, whereas horses with straight hock conformation often remain lame (Dyson and Murray 2012). It is important to rule out other possible or concurrent causes of lameness prior to deciding for surgery.