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The challenge of the successful management of proximal suspensory desmitis in hindlimbs

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Proximal suspensory desmitis (PSD) is a common condition in horses from all types of disciplines, with dressage horses being particularly at risk (Murray et al. 2009). Successful management is dependent on accurate diagnosis (Dyson 1994, 1995a,b, 2007). Clinical manifestations vary widely from an overt unilateral hindlimb lameness to a subtle performance problem, such as inability to perform right canter pirouette, generalised stiffness, or behavioural changes such as bolting or resisting. Proximal suspensory desmopathy might be a more appropriate term in some horses in view of the histological characteristics of injured ligaments and the absence of signs of inflammation in the majority (Dyson 1995b, 2007). There is growing evidence that at least in some horses this is a degenerative condition on which work trauma may be superimposed (Mero and Pool 2002; Halper et al. 2006; Schenkman et al. 2009). Pain causing lameness may originate from the ligament itself or be associated with compression of the adjacent nerves (Dyson 2007; Toth et al. 2008). The suspensory ligament (SL) is effectively within a compartment bounded by the plantar aspect of the third metatarsal bone (MtIII), the second and fourth metatarsal bones (MtII and MtIV) and the deep fascia running between the plantar aspects of MtII and MtIV.

How sure are we of the diagnosis? How accurate is diagnostic ultrasonography? The degree of response to perineural analgesia of the deep branch of the lateral plantar nerve

Although in some horses diagnosis is straightforward, it is clear that a positive response to perineural analgesia of the deep branch of the lateral plantar nerve does not necessarily imply PSD. Moreover false positive and false negative results of diagnostic ultrasonography can be obtained (Labens et al. 2010). The proximal aspect of the SL in hindlimbs can be difficult to examine ultrasonographically because of the shape of the limb limiting the ‘window’ through which the SL can be examined and artefacts created by adjacent blood vessels. It is crucial to critically evaluate the degree of response to perineural analgesia of the deep branch of the lateral plantar nerve and if the lameness is improved >90% consider infiltration of local anaesthetic solution toward the enthesis, addition of intraarticular analgesia of the tarsometatarsal joint, addition of a tibial nerve block or tibial and fibular nerve block, or infiltration of local anaesthetic solution around the saccroiliac joint regions.

Confounding issues

Other sources of pain may be contributing to pain and either lameness or poor performance. The accessory ligament of the SL may contribute to continued irritation of the SL. Recognition of conformational abnormalities which are either a predisposing factor for injury or reflect loss of function of the suspensory apparatus is important, because these are poor prognostic indicators.

Treatment options

Treatment options include extracorporeal shockwave therapy, radial pressure wave therapy, rest and local infiltration with a variety of products including corticosteroids, homeopathic drugs, porcine bladder matrix (A Cell), injection of platelet rich plasma or mesenchymal stem cells, desmoplasty, fasciotomy and neurectomy of either the deep branch of the lateral plantar nerve or the tibial nerve and osteostix. (Crowe et al. 2004; Bathe 2006; Heves and White 2006; Launois et al. 2006; Kelly 2007; Pauwels et al. 2009).