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New methods of degenerative tendinopathy treatment in horse

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Objective: Give the clinical similarities in tendinopathy of energy-storing tendons, we hypothesized that a recently developed experimental model of equine tendon injury would display many of the characteristics of clinical tendinopathy and could therefore be of use for both species, thus providing comparative insight to the human condition and offering direct potential impact to equine medicine.

Procedures: In many studies, grey-scale Ultra-Sonography (US) and Color Doppler (CD) examination were performed in many horses with chronic tendon injuries and a control group of healthy and asymptomatic horses. In all symptomatic tendons, but not in any of the tendons in the control group, neovessels were seen in the area with structural tendon changes. The neovessels found in the horse tendons looked similar to what has recently been presented in human Achilles tendons. These findings motivate evaluation of same treatment, a sclerosing injection that was demonstrated recently to give promising results in the treatment of chronic Achilles tendon injuries in humans.

Results: In studies seen that grey-scale ultrasonography shown that in all injured tendons there were irregular fiber and focal hypochoic areas, the control tendons had not this diagnostic color. Doppler examination showed that in all injured tendons was neovascularization but the control tendons had not these diagnostic.

Conclusion & Clinical Relevance: All studies results provide evidence that at present no single universal treatment method has emerged and, in most instances, clinical experience influences recommendations. It would appear that early aggressive anti-inflammatory treatment and combined treatment strategies, such as tendon stabbing for core lesions, and controlled exercise regimens, coupled with regular ultrasonographic examinations are the best most clinicians can offer.

Recent Publications

1. Godwin E E, Young N J, Dudhia J, Beamish I C and Smith R K (2012) Implantation of bone marrow-derived mesenchymal stem cells demonstrates improved outcome in horses with overstrain injury of the superficial digital flexor tendon. *Equine Veterinary Journal* 44:25-32.
2. Smith R K (2008) Mesenchymal stem cell therapy for equine tendinopathy. *Disability and Rehabilitation* 30:1752-1758.
3. Del Bue M, Riccò S, Ramoni R, Conti V, Gnudi G, et al. (2008) Equine adipose-tissue derived mesenchymal stem cells and platelet concentrates: their association *in vitro* and *in vivo*. *Veterinary Research Communications* doi: 10.1007/s11259-008-9093-3.
4. Nagase H et al., (2006) Structure and function of matrix metalloproteinases and TIMPs. *Cardiovascular Research* 69:562-573.
5. Jones G C and Riley G P (2005) ADAMTS proteinases: a multi-domain, multi-functional family with roles in extracellular matrix turnover and arthritis. *Arthritis Research & Therapy* 7:160-169.

Biography

Melika Abdollahi is a Doctorate student who is interested in knowing more useful ways to treat any diseases, she loves to practice medicine, especially surgery so she started researching since she was in her first year of university. She is member of Iran Veterinary Association and Iran Veterinary Surgery Association, the foundation of these new methods is based on studying many valid articles in all around the world for this treatment case.

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