Extracorporeal Shock Wave Therapy for Treatment of Navicular Syndrome.

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Navicular syndrome is a common cause of chronic lameness in horses. The exact aetiology of navicular syndrome is unknown. Mechanisms of disease onset proposed include bone remodelling, ischemia, and chronic bursitis. The objective of this study was to evaluate ESWT in decreasing the lameness associated with navicular syndrome.
Case records of horses that were diagnosed with navicular syndrome and treated with ESWT from June 1999 to August 2001 were evaluated for this study. Each navicular bone involved was treated with 2000 pulses (1000 pulses through the frog and 1000 through the heel) at 0.89 mJ/mm2 by an electrohydraulic shock wave generator. A follow-up examination was performed 6 months post-treatment. Further follow-up information was obtained by repeated clinical evaluation of the horse and by telephone and/or personal interview with the owner or trainer. Outcome was evaluated three ways: 1) unmasked veterinary evaluation, 2) client perception of lameness, and 3) masked evaluation of video tapes taken pre- and 6 months post treatment. A series of radiographs were taken of each foot for evaluation of the navicular region prior to treatment and 6 months post-treatment for the 16 horses with follow-up. A radiologist blinded as to outcome or pre- or post- treatment evaluated the radiographs and scored them from 0 = normal to 3 = dramatic changes for; 1) medullary sclerosis, 2) distal border synovial invaginations, 3) flexor cortex erosions, 4) abaxial margins, 5) medullary cysts, and 6) the deep digital flexor tendon.
Extracorporeal shock wave therapy was effective in decreasing the lameness associated with navicular syndrome in 81% of the horses as determined by an unmasked evaluator and in 56% of the horses with masked evaluators. There was no significant change in the radiographic scores between pre- and post- treatment (P=0.54). There was no significant relationship between pre-treatment radiographic score and outcome for lameness evaluation by the 3 masked graders for trotting at hand (r2=0.019, P=0.92) or in a circle (r2= -0.23, P =0.26).
Extracorporeal shock wave therapy provided a non-invasive, effective mechanism to decrease the lameness associated with navicular syndrome. There were no complications associated with the procedure. Lameness in horses that responded to treatment did not regress in the year following treatment. The results of this study indicate that ESWT should be considered as a viable non-invasive mechanism to navicular syndrome in horses.