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EFFECTS THE PULSED ELECTROMAGNETIC FIELD ON THE SUPERFICIAL DIGITAL FLEXOR TENDONITIS IN DONKEY: SONOGRAPHY STUDY

Ashraff waleed abdulrazaq, Fereidoon Saberi Afshar*
Majid Masoudifard*
College of Veterinary Medicine, University of Basrah,Basrah, Iraq
***College of veterinary medicine, University of Tehran,Tehran, Islamic Republic of Iran**
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Corresponding Author: ashraff2013g@gmail.com

ABSTRACT

The aim of this study was to determine the effects of pulsed electromagnetic therapy on the collagenase enzyme induced tendonitis in donkeys. Under sonogram guidance, 1000 IU of collagenase enzyme were injected in the core of superficial digital flexor tendon of right and left forelimbs of each donkey (5 donkeys, 10forelimbs). Clinical evaluations of the injected tendons were performed to assess heat, response to palpation, swelling presence, and lameness grade according to American Association of Equine Practitioners (AAEP) for two week. The sonograms of the superficial digital flexor tendons were recorded prior to injections and at days 3, 7 and 14 after the injection. When the inflammation was stabilized in two weeks, all forelimbs were divided into equal treatment and control groups. Pulsed electromagnetic therapy (600 Gauss, 50 Hz) used for treatment group for two weeks (14 days) and control group remained without any treatment. In both groups the lesion percentage, the echogenicity score, and fiber alignment score at the maximum injury zone were measured by sonogram images. Clinically 1000 IU of collagenase enzyme can induce acute tendonitis that established in two weeks. After used pulsed electromagnetic therapy for two week, sonographically, in treatment group, the results showed better scores have been obtained with time in regard to "the lesion percentages", "echogenicity" and "fiber alignment" in compare to control group. On the basis of these results can be concluded that pulsed electromagnetic therapy is a simple, inexpensive and noninvasive method with positive and encouraging effects for treatment of the superficial digital tendonitis in donkeys.