

ABSTRACT

MIKAIL, S.C. **Evaluation of Gallium Arsenide Laser for treatment of equine tendinitis.** [Avaliação da terapia do laser de arsenito de gálio em tendinite de cavalo Puro Sangue Inglês de corrida]. 2008. 131 f. Dissertação (Mestrado em Medicina Veterinária) – Faculdade de Medicina Veterinária e Zootecnia, Universidade de São Paulo, São Paulo, 2008

- This study conducted two trials to evaluate the efficacy of Gallium Arsenide Laser in the speed of the healing process of superficial digital flexor tendon (SDFT) lesions in thoroughbred horses. One trial group (T1) comprises 14 horses with lesions, which resulted from the sport, in the SDFT in one of the front limbs. The other trial group (T2) was formed by five horses that had lesions induced in both front limbs by collagenase injection. In the T1, after the detection of the lesion in the SDFT by ultrasonography all horses were treated by intravenous injection, once a day, over five days, with an association of two AINS: phenylbutazone and dimethylsulfoxide. Cryotherapy was also applied on the affected tendon (three times a day over five days) and the horses were kept in stalls and allowed controlled exercise (hand-walked twice daily for 15 minutes) during the 30 days of the study. The treated limbs belong to 11 horses that



received laser sessions once a day for ten days at a dosage of $20\text{J}/\text{cm}^2$. These sessions started after the AINS association and cryotherapy. The control limbs belong to the other three horses that received the same treatment, except by the laser sessions. In the T2, after the detection of the lesion, a limb from each horse was randomly chosen to be the control limb and the other limb was treated by laser. These horses were also kept in stall under controlled exercise and the treated limb was under the same laser protocol that T1. All horses were evaluated by two ultrasonographic exams with a 30-day interval. The parameters evaluated were: the fiber alignment, the echogenicity, the tendon area, the lesion area and the proportion of the cross sectional area involved. In the T1, the control limbs showed no significant difference ($p>0,05$) in the echogenicity, the fiber alignment, the tendon area, the lesion area or the proportion of the cross sectional area involved, between the day 0 and 30. The treated limb, didn't show any significant difference of the tendon area, but showed a significant difference on the echogenicity ($P<0,001$), the fiber alignment ($P<0,001$), the lesion area ($P<0,05$) and the proportion of the cross sectional area involved ($P<0,05$). In the T2, only one limb received the laser treatment, the other limb acted as a control. The control limbs showed no significant difference ($P>0,05$) in the echogenicity, the fiber alignment, the tendon area, the lesion area and the proportion of the cross sectional area involved between the day 0 and 30. The treated limbs showed no significant difference ($P>0,05$) in the echogenicity, the fiber alignment and the tendon area, but showed significant difference in the lesion area ($P<0,05$) and the proportion of the cross sectional area involved ($P<0,01$). The treatment dose of $20\text{J}/\text{cm}^2$ of gallium arsenide laser was efficient in speeding the healing process of SDFT lesions of the laser treated limbs in both groups (T1 and T2), when compared with the control limbs, at 30 days of the onset of the lesion. The group which lesions occurred due to the sport (T1) had a better response to the treatment than the group which lesions were induced by collagenase (T2). The limbs treated by laser showed a positive response which validates the use of the Gallium Arsenide laser for the treatment of tendinitis in the Superficial Digital Flexor in race horses.

- Key words: Equine. Laser. Tendinitis. Superficial digital flexor tendon.