

Assessment of coronary band temperature in sick horses treated with digital cryotherapy



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Introduction

Laminitis is a devastating disease of the foot in horses. It consists on the separation of the epidermal laminae of the hoof and the rotation of the distal phalanx. This disease causes poor performance and, in most of cases, chronic pain. To prevent it, cryotherapy is a treatment with proven efficacy. The aim of this treatment is to reduce the hoof temperature. The hypothesis of this study contemplates that cryotherapy used in the Unitat Equina - Hospital Clínic Veterinari UAB (UE-FHCV) decreases significantly the temperature of the coronary band (TBc) and of the hoof wall (TP), reducing the incidence of laminitis in horses at risk.

Materials and methods

This prospective study analyses three horses from UE-FHCV that received cryotherapy during the time of the study. The method used consists on 5L fluid bag filled with ice and water, which is replenished every 2 hours. The treatment is applied on front limbs while back limbs are used as control. Temperature data is registered once a day until the end of the treatment with an infrared thermometer.

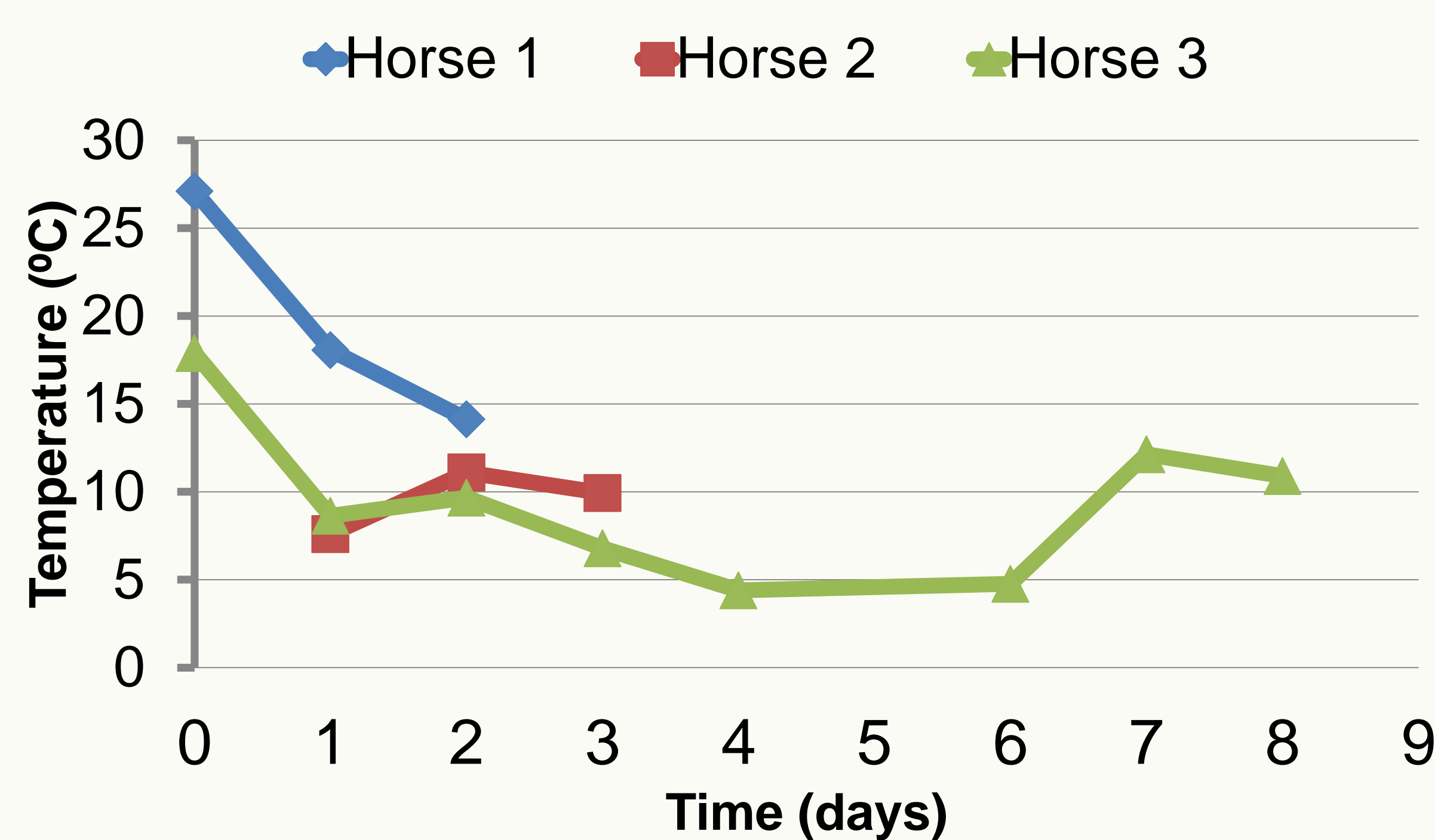


Table 1. TBc at left front limb.

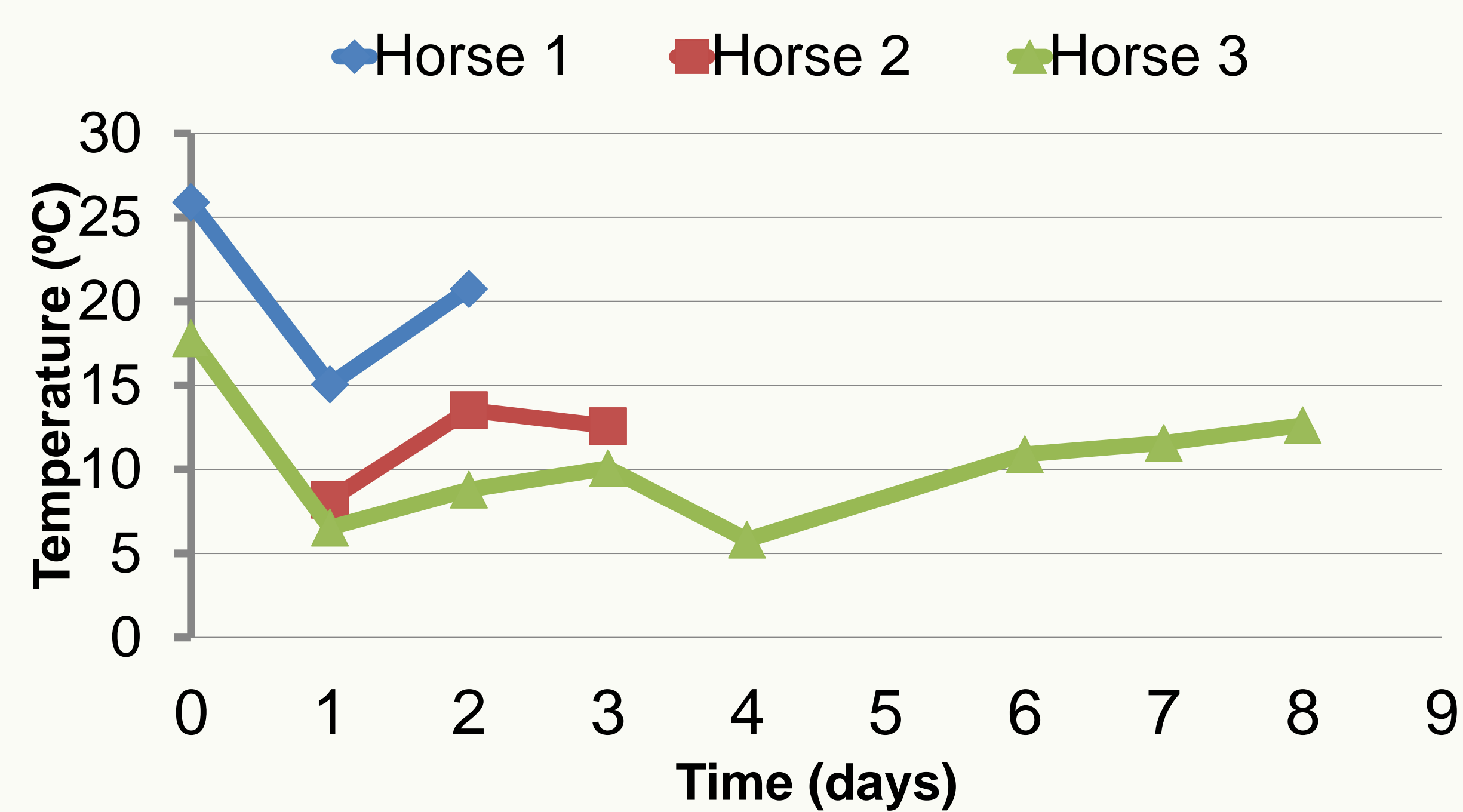


Table 2. TBc at right front limb.

Results

Due to the reduced number of cases, the data is analysed descriptively. The TBc of two horses decreases compared with the TBc before the treatment (table 1 and 2). TP remains <10°C during cryotherapy except in horse 3. In all cases, TBc and temperature of the hoof wall (TP) from front limbs is lower than TBc from back limbs. Laminitis is not developed in any horse.

Discussion

The main difficulty of this study is the low number of horses that comes to the UE-FHCV during the data collection. There is no established hoof temperature to prevent laminitis. Some studies show that preventive effect is acquired when hoof internal temperature is around 5°C. However, TP <10°C is considered the therapeutic range at clinical practice. In all cases of this study, TBc reduces with cryotherapy and TP is at therapeutic range. Despite horses do not develop laminitis, no general conclusions can be established. Nevertheless, the results can provide guidance on the effect of cryotherapy on hoof temperature.

Conclusions

Cryotherapy method used in UE- FHCV reduces the temperature of the hoof to levels considered therapeutic in clinical practice. Although none of the cases studied has developed laminitis, the effectiveness of treatment in preventing disease can not be estimated due to the scarce data.