



Effect of Absorbine® Bute-Less® Performance Supplement Containing Curcumin Extract (Longvida®) in Horses with Osteoarthritis or Degenerative Joint Disease

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Introduction

Osteoarthritis is common in horses causing pain and loss of use. With the current emphasis on “Clean Sport” natural supplements are being used to decrease pain and increase joint mobility during competition. The purpose of this study was to evaluate the oral herbal supplement, Absorbine® Bute-Less® Performance, containing Curcumin Extract (Longvida®) on lameness and joint pain in horses with naturally occurring front limb osteoarthritis. In addition, gastroscopy was performed to determine its effects on stomach health.

Methods

A prospective two-period crossover study was performed at Louisiana State University School of Veterinary Medicine evaluating 6 Thoroughbred horses with naturally occurring osteoarthritis. Horses were fed the supplement Absorbine® **Bute-Less® Performance** (W.F. Young Inc., East Longmeadow, MA) containing essential vitamins, herbs and extracts, including Curcumin Extract, a plant extract. Prior to entering the study, horses from the resident Equine Health Studies Program herd were evaluated for lameness (grade 2 to 4, AAEP Scale) in one front limb and had radiographic evidence of osteoarthritis in either the carpus, fetlock or pastern joint, which was localized by palpation, flexion testing and/or a joint anesthesia. The Absorbine® Bute-Less Performance supplement pellets (Longvida®; 2 ounces [1.060 gm active ingredient]) were top-dressed on grain (2.0 Kg; Omelene® 100, Purina Animal Health, Gray Summit, MO.) or control horses received grain alone fed daily for 30 days. Lameness data including, lameness examination (AAEP Lameness Scale 1-5), range of motion, pain on palpation, and force platform data were collected by a masked (to treatment) observers, prior to the beginning of each period (pre-supplementation), on Day 15, and on Day 30 of the study. In addition, blood samples will be obtained from the horses on days 1 and 14, before and after treatment to determine curcumin blood concentrations for pharmacologic measurements. In addition, gastroscopy was performed on Day 0 and then again on Day 31 and gastric ulcer scores were recorded using the Equine Gastric Ulcer Scoring System (Andrews et al. 1999).

Results

Absorbine® Bute-Less® Performance supplement containing curcumin top-dressed on feed was safe and no adverse responses were noted in the treated horse. Subjective lameness examination performed by a board certified surgeon showed no treatment effect in the horses. However, pain response upon palpation was significantly lower in the curcumin treated horses compared to control horses (**Figure 1**). Peak vertical force as measured by the force platform was significantly higher in the lame leg in horses treated with the curcumin compared to controls after 30 days of feeding (**Figure 2**), which resulted in a significantly higher difference in lameness in the curcumin treated horses.

On gastroscopy examination, gastric ulcer scores were significantly lower in both the treated and control horse after 30 days of treatment when compared to horses on Day 0, prior to treatment (**Figure 3**).

Discussion

- Curcumin supplement top-dressed on feed was safe when fed to horses.
- Curcumin supplement top-dressed on feed reduced pain on palpation of the affected joint after 30 days of treatment.
- Curcumin supplement top-dressed on feed improved weight-bearing in the lame leg after 30 days of feeding.
- Gastric ulcer scores decreased in both control and treated horses after 30 days of feeding.

Conclusions

Absorbine® Bute-Less® Performance containing curcumin (Longvida®) fed to horses reduced pain and improved lameness due to osteoarthritis after 30 days of feeding, while maintaining stomach health.

References

Andrews FM, Sifferman R, Bernard W, et al. Efficacy of omeprazole paste in the treatment and prevention of gastric ulcers in horses. *Equine Veterinary Journal* (Suppl.) 29:81-86, 1999.

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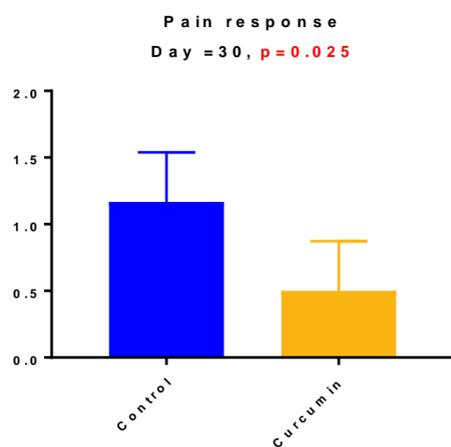


Figure 1: Graph showing a significantly lower response to “Pain on Palpation” score in the lame joint in the curcumin-supplemented horses compared to controls by day 30.

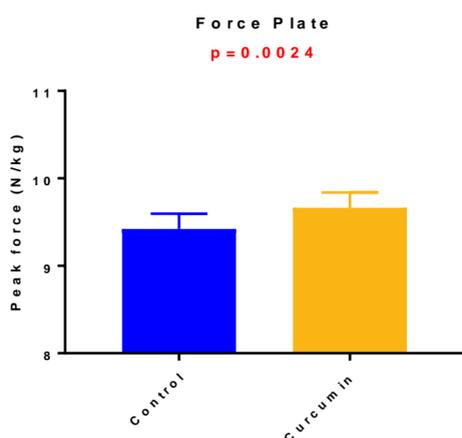


Figure 2: Graph showing a significantly higher peak vertical force in horses fed curcumin compared to controls by day 30 days of treatment.

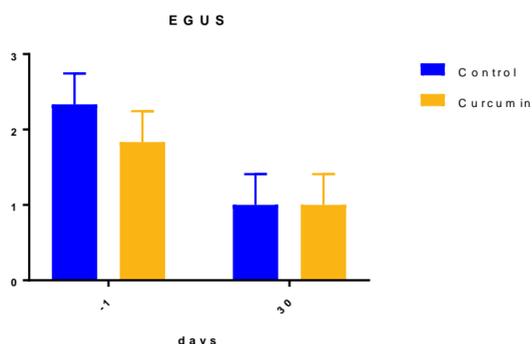


Figure 3: Graph showing significantly lower EGUS ulcer scores in both curcumin and control horses by Day 30.