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Introduction

Gastric ulcers are common in horses and likely caused by increased hydrochloric acid, decreased pH, and compromise of mucosal protective factors. Risk factors include training intensity, stall confinement, and feeding regimes. Recently, a polysaccharide gel (PSG) reduced ulceration in active horses.¹ It was purposed that the PSG supplied epidermal and basic fibroblast growth factors which mitigated the negative impact of stress and diet on the stomach health in horses prone to gastric ulcers. The purpose of the study was to evaluate anti-ulcerogenic properties of Relyne^{GI}[®], containing β -Glucans, in stall-confined horses with naturally occurring gastric ulcers.

Materials and Methods

Healthy adult Thoroughbred horses (n=12) with no abnormalities based on clinical exams and blood work, were stall-confined for 35 days. Before treatment was initiated (Day -1), gastroscopy was performed and horses were allocated to two treatment groups, X (n=6, Relyne^{GI}, Hagyard Pharmacy, Lexington, KY) or Y (n=6, control). Horses were then treated for 35 days. Gastroscopy was repeated on days 14, 21, 28 (after intermittent feeding), and 35. Horses were monitored daily for clinical signs or adverse events. Gastric ulcer scores were assigned by a masked investigator (FMA) and gastric fluid pH (stomach acid), after aspiration, was measured using a pH meter.

Results

Non-glandular (NG) EGUS and severity gastric ulcer scores were significantly lower in the Relyne^{GI} supplement treated group on days 28 and 35, compared to controls (**Figs. 1&2**). Also, NG ulcers were healed (except for mild hyperkeratosis) on the same days (**Fig. 1**). Glandular lesions were low throughout the treatment period. The number and severity of glandular lesions were significantly lower after 14 days of Relyne^{GI} supplement administration when compared to controls, otherwise there was no treatment by day effect on other days (**Fig 3**). Gastric juice pH remained low (mean range, 1.8 to 2.8) (**Fig. 4**) and horses maintained their body weight in both treatment and control groups during the study period. Blood values were within reference ranges for the study period.

Conclusion

- The supplement, Relyne^{GI}, with β -Glucan, was readily consumed by the horses and no adverse events or clinical signs were observed.
- The supplement, Relyne^{GI}, resulted in significant improvement in NG stomach health by day 28 and 35.
- Glandular lesions were significantly lower on day 14, but mild and intermittent changes were seen on other days.
- Gastric juice pH and body weight were not different between groups.

¹Solvis, N. (2017) Polysaccharide treatment reduces gastric ulceration in active horses. J Equine Vet Science. 50, 116-120.

LSU does not endorse any products for horses.

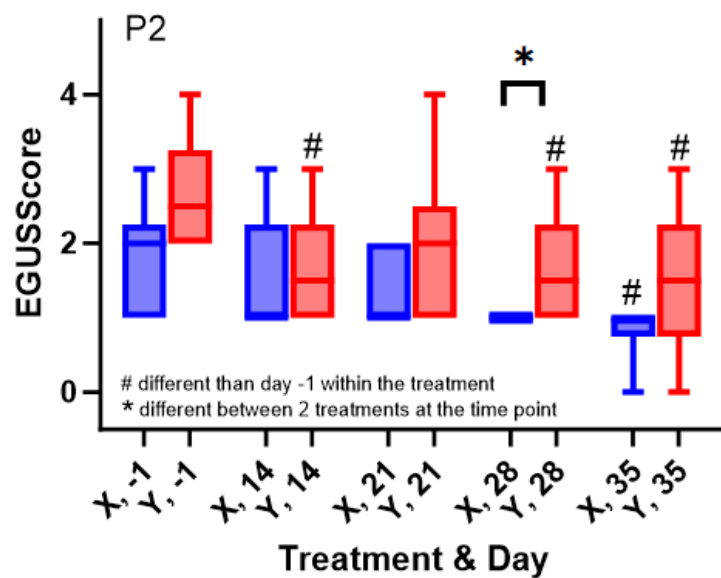


Fig. 1. Non-glandular EGUS scores in horses on Days 0, 14, 21 and 28, fed Relyne^{GI} (X) and Controls (Y). Treated horses had significantly lower EGUS scores on Day 28 and 35.

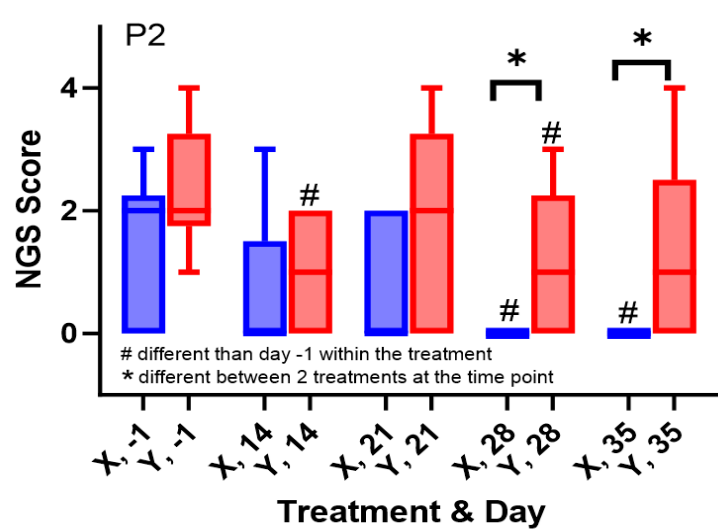


Fig. 2. Non-glandular severity (NGS) scores in horses on Days 0, 14, 21, 28 and 35, fed Relyne^{GI} (X) and Controls (Y). Treated horses had significantly fewer and less severe ulcers on Day 28 and 35, compared to controls.

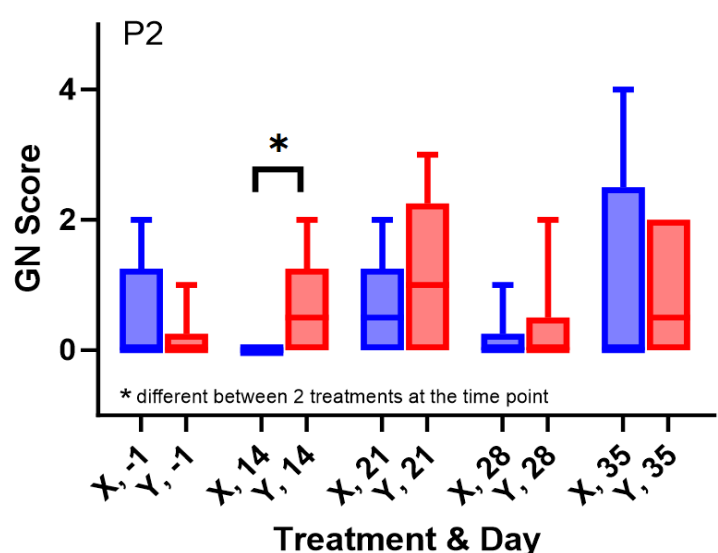


Fig. 3. Glandular ulcer number (GN) scores in horses on Days 0, 14, 21, 28 and 35, fed Relyne^{GI} (X) and Controls (Y). Glandular lesions in horses fed the Relyne^{GI} supplement were significantly lower on day 14.

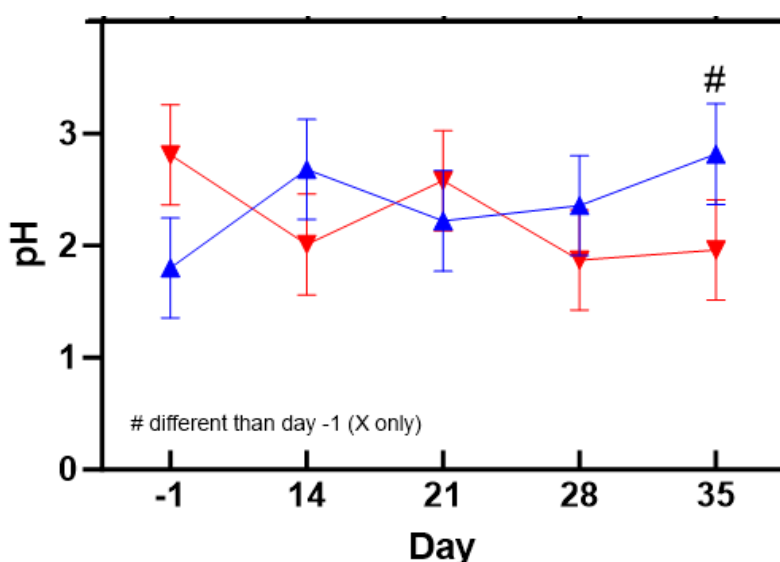


Fig 4. Gastric juice pH in horses on Days 0, 14, 21, 28 and 35, fed Relyne^{GI} (X) and Controls (Y). Gastric pH did show a treatment effect.