



Prevalence and role of gluten intolerance in 53 horses suspected of Inflammatory Bowel Disease

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Introduction

Equine Inflammatory Bowel Disease (IBD) is a complex disease with different etiologies and variable clinical signs, such as weight loss, recurrent colic, varying fecal consistency and lethargy. Food allergies have been suggested to play a role in the pathogenesis of IBD and previously in the literature gluten intolerance has been mentioned. The aim of this study was to investigate further the prevalence and role of gluten intolerance in IBD suspected horses.

Materials and Methods

53 horses with a diagnosis of IBD, based on a combination of clinical presentation, rectal palpation, abnormal oral glucose absorption test and an abnormal histology of a duodenal biopsy, were tested for gluten serology.

An ELISA was performed to assess the presence of antibodies against transglutaminase-2 (TGA) in serum, with the test being negative with a TGA IgA-titer lower than 35 AU/ml, equivocal between 35-55 AU/ml and positive above 55 AU/ml.

For horses with a positive or equivocal test result, follow-up data was gathered by a questionnaire concerning the outcome, the effect of a gluten free diet/management and general wellbeing.

Results

In 9/53 (17.0%) of the horses the ELISA was positive, in 13/53 (24.5%) the test result was equivocal, and in 31/53 (58.5%) there was a negative result. The median TGA-titer was 28.86 AU/ml (range 2.97-90.2).

Follow-up data were retrieved for 15 horses with a positive (n=9) or equivocal (n=13) test result. 5/15 (33.3%) horses died, and in 3/5 (60.0%) horses the cause of death was related to the IBD, whereas the other 2 were euthanized because of a strangulating lesion of the intestine.



Improvement in a 12-year-old Dutch Warmblood, diagnosed with IBD and a positive gluten serology test, managed on a gluten free diet and with a period of corticosteroids

A gluten-free diet and management was implemented by all 15 owners. Diet was adapted accordingly, and stable bedding was changed from straw to flax or wood shavings.

13/15 (86.7%) of the owners reported that they had the impression that a gluten-free diet and management were beneficial to the horse. The clinical signs improved: appetite increased, abdominal discomfort and sensitivity reduced, performance and fecal consistency improved. In two cases, all clinical signs disappeared. The diet had no noticeable beneficial effect in one horse and a questionable effect in one other horse.

6 (40%) out of the 15 horses were still treated for IBD with corticosteroids at the time of the survey or up until their euthanasia. 4 owners of these 6 horses still considered the gluten-free diet and management to have (had) an added beneficial effect.

Discussion

The gluten serology test result was negative in the majority (58.5%) of horses with IBD, but a considerable percentage (41.5%) of the horses tested positive or equivocal.

86.7% of the owners of these gluten serology positive or equivocal horses perceived a positive effect of the gluten-free diet and management, with the biggest improvement seen in performance.

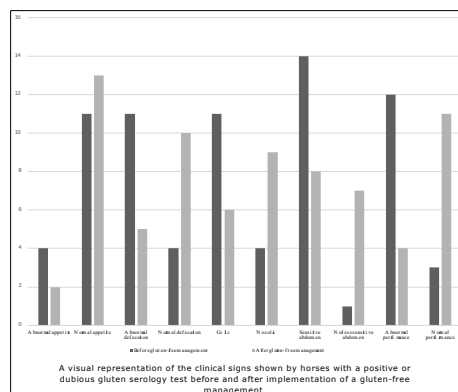
Based on the results of the survey it is suggestive that gluten-free diet and management decreases symptoms of horses with a sensitivity to gluten, and thus might be a useful part of the treatment plan for these horses. However, the study population was small, the symptoms were assessed by the owners, causing an inevitable variation in the way symptoms were or were not noticed, interpreted and described.

Conclusion

Horses suffering from IBD can have a positive or equivocal gluten serology result. Gluten intolerance can play a role in some cases of IBD, and a gluten-free diet and management seems to be beneficial.

Clinical relevance

Testing for gluten intolerance can be relevant in managing IBD cases or to exclude a role of gluten sensitivity in the etiology of their IBD.



References

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