Failure of Psyllium Mucilloid to Facilitate the Evacuation of Sand from the Equine Large Intestine

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Psyllium muciloid has no effect on the removal of sand from the large intestine of ponies. The management of sand-induced diseases should focus on preventing horses from continually ingesting sand. Authors’ address: Dept. of Veterinary Clinical Medicine, University of Illinois, College of Veterinary Medicine, 1008 W. Hazelwood Dr., Urbana, IL 61802. © 1998 AAEP.

1. Introduction
In various geographical areas, practitioners commonly encounter problems caused by sand accumulation within the equine large intestine. Chronic diarrhea, weight loss, and colic may occur when sufficient amounts of sand accumulate within the intestine and cause mucosal damage or luminal obstruction. A mortality rate of 40% has been reported for horses requiring surgical treatment of sand impaction. Psyllium is administered to horses to prevent or treat sand impactions in the belief that it can dislodge sand from the intestine and hasten its evacuation by lubrication. However, claims of a beneficial response to psyllium are largely anecdotal.

Only one published report was found of a controlled study evaluating the efficacy of psyllium for the removal of sand from the equine intestine. In that study, a small dose of sand was given by stomach tube and sand excretion in feces was monitored. The single dose of psyllium appeared to increase sand excretion for the first 24 h, but the amount of sand recovered from the untreated horses was greater than that from treated horses at the end of the 5-day study period. The study reported here was designed to test the ability of psyllium to facilitate sand evacuation from the equine large intestine by comparing treated and control groups of ponies who had sand surgically placed in their large intestines.

2. Materials and Methods
Twelve clinically healthy pony geldings were assigned to two groups, with six ponies in each group. All ponies had an exploratory celiotomy, and 10 g/kg body weight of sand was placed into the cecum. After surgery, the ponies were fed a grain mixture at 1 g/kg q 24 h (controls), a grain mixture plus psyllium pellets, each at 1 g/kg q 24 h (three ponies), or a grain mixture and psyllium powder, given by nasogastric tube at 0.5 g/kg q 12 h in 3 L of water (three ponies). Ponies were euthanatized 11 days after surgery, and the sand was collected from the contents of the cecum, ventral colon, dorsal colon, and small colon. The dry weight of the recovered sand...
sand was compared between the two treatment groups as a percentage of the dry weight of sand placed in the cecum. A unidirectional hypothesis was used in completing a student’s t test for a comparison of group means. Significance was set at \( p < 0.05 \). Radiographs were made at 1, 5, and 11 days after surgery to follow the sand transit.

3. Results
Sand placed in the large intestine had no adverse effects on ponies. The mean percentage of total sand recovered from the control group was 27.4%, and that from the treated group was 39.2%; this difference was not significant. The largest amount of sand was recovered from the right dorsal colon in both groups. On radiographs, the sand had moved into the ventral colon by day 1, was mostly in the ventral colon by day 5, and was diffusely distributed throughout the large intestinal contents by day 11. There were no qualitative differences in the sand transit between groups.

4. Discussion
Under conditions of this study, psyllium mucilloid had no effect on the removal of sand from the large intestine of ponies. This is consistent with the results of a previous study. When horses are not ingesting sand continually, normal intestinal motility should dislodge and remove most of the accumulated sand. During the 11-day test period, the ponies in this study were able to pass approximately 70% of the sand, whether they were treated or not. These results raise the concern that overreliance on the ability of psyllium to remove sand may lead to a false sense of security when known sand impactions are treated. This could lead to increased morbidity and mortality in horses exposed to sand or that have a tendency to eat sand. We recommend the denial of access to sand as part of the treatment of clinical cases with sand-induced disease, and this alone might be an effective treatment in some cases.

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References and Footnotes

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