Subclinical Colitis Following NSAID Administration in Healthy Horses

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Firocoxib administration in clinically healthy adult horses was associated with increases in colon wall thickness and edema, compared to flunixin meglumine administration. COX-2 selective nonsteroidal anti-inflammatory drugs (NSAIDs) carry a risk of developing subclinical colitis. Authors’ address: Department of Veterinary Clinical Medicine, University of Illinois, Urbana, IL 61802-4714; e-mail: rb17@illinois.edu. *Corresponding and presenting author. © 2021 AAEP.

1. Introduction
NSAID administration can cause gastrointestinal toxicity. Selective COX-2 inhibitors ("coxibs") were developed to reduce risk of undesirable side effects when administering nonselective NSAIDs. It is unknown if coxibs are protective against the risk of subclinical colitis in horses.

2. Materials and Methods
Eight healthy adult horses were administered flunixin meglumine (1.1 mg/kg IV q12h for 5 days), then firocoxib (0.3 mg/kg PO once, then 0.1 mg/kg PO q24h for 4 days) with a 6-month washout period between. Omeprazole (1 mg/kg PO) was administered concurrently with each NSAID. Transabdominal ultrasonographic examination was performed at the beginning and end of each treatment week. Serum chemistry profiles and complete blood counts were performed.

3. Results
Clinical parameters and blood values were within normal limits. Colon wall thickness increased over time when horses received firocoxib ($p = 0.008$) but not flunixin ($p = 0.195$). Colon wall thickness was greater following firocoxib treatment compared to flunixin treatment ($p = 0.008$). Subjectively, colonic edema was present more frequently and was more severe following treatment with firocoxib, compared to flunixin.

4. Discussion
While no horses exhibited clinical signs of colitis, there was a significant increase in colon wall thickness following treatment with firocoxib that did not occur when the same horses were administered flunixin. A
larger sample size may be required to detect significant differences in other clinical parameters.

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**Declaration of Ethics**

The Authors have adhered to the Principles of Veterinary Medical Ethics of the AVMA.

**Conflict of Interest**

The Authors have no conflicts of interest.