MESSAGE FROM THE GRAYSON-JOCKEY CLUB RESEARCH FOUNDATION

COLIC RESEARCH UPDATE

Two-year study shows improved survival rates in horses treated with firocoxib

BY DR. ANTHONY BLIKSLAGER

Colic is one of the most dangerous disease syndromes of horses. Approximately one in 10 colicking horses need surgery to correct an intestinal strangulation, the most severe form of colic, in which a portion of the gut is cut off from blood supply, injuring the gut barrier and allowing leakage of intestinal bacteria and toxins into the bloodstream. These toxins entering the body can lead to shock, often termed endotoxemia, and organ failure, which can be fatal.

The intestine can repair itself after injuries, but veterinarians continue to see high rates of death after surgery due to these complications.

For that reason researchers at North Carolina State University, Michigan State University, and the New Bolton Center at the University of Pennsylvania sought to evaluate postoperative management of colic patients to ensure that horses have the best possible chance of fully recovering. Recent studies have shown that when injured intestine is recovered in the lab, flunixin meglumine paradoxically slows down the repair process and allows increased leaking of bacterial toxins through the gut wall, even though it is a first-line effective pain reliever.

This is the most common non-steroidal anti-inflammatory drug (NSAID) used in horses to control pain and inflammation after surgery.

Similar lab studies have shown that a newer NSAID, firocoxib (Equioxx®) allows for better recovery of injured tissue because it targets the enzyme (COX-2) that promotes inflammation but does not block COX-1 that promotes intestinal repair. Therefore, the researchers believe that firocoxib would be a better choice than flunixin meglumine to manage pain and inflammation after colic surgery to reduce complication rates and ultimately improve survival.

In a two-year study funded by The Grayson-Jockey Club Research Foundation, horses that had surgery to correct small intestinal strangulating colic were given either flunixin meglumine or firocoxib during their recovery in the hospital in a randomized clinical trial. Fewer horses given firocoxib had high levels of a blood marker of inflammation related to leakage of bacterial toxins from the gut as compared to those given flunixin meglumine.

Importantly, both NSAIDs effectively treated surgical pain to the same degree. There was not a major difference in survival rates, but this study included 56 horses, and the researchers feel that studying more colic patients would reveal improved survival rates in horses treated with firocoxib. This study shows that firocoxib might be a better first-line medication than flunixin meglumine to treat colicking horses.

In addition, this GJCRF-supported study shows how bigger and better clinical studies can be performed by linking veterinary hospitals to find optimal treatment for horses. We are also particularly grateful for the Elaine and Bertram Klein Career Development Award to the lead investigator, Dr. Amanda Ziegler, an up-and-coming equine veterinary researcher. Dr. Ziegler is completing her PhD, in part using this work, under our direction at NC State University. BH

Dr. Anthony Blikslager, is a professor of equine surgery and the associate director of Comparative Medicine Institute, College of Veterinary Medicine at North Carolina State University.