

Hemorrhagic Cystitis Characterized in Horses

The diagnosis of cancer in an animal is devastating for an owner. Thankfully, for some owners whose horses have been diagnosed with bladder cancer, equine internal medicine veterinarians have characterized a treatable clinical syndrome that mimics bladder cancer.

A retrospective study of UC Davis veterinary hospital patients over an 11-year period identified hemorrhagic cystitis as a condition that shows similar symptoms and conditions to bladder cancer in horses that presented with hematuria (blood in their urine).

Symptoms in horses with hemorrhagic cystitis or bladder cancer may include painful or uncomfortable urination and unusual consistency of urine—especially blood in the urine.

The study, led by resident veterinarian Dr. Fauna Smith under faculty member Dr. Gary Magdesian's mentorship, identified hemorrhagic cystitis in 10 horses. This type of bladder inflammation has never been described in horses before. All horses had a history of blood in their urine and uncomfortable or frequent urination. Cystoscopy (imaging the inside of the bladder with a tiny camera) revealed bleeding and thickening of the bladder lining. Bladder wall hemorrhage with inflammation was the most common biopsy finding, but some of the cases had findings suggestive of bladder cancer.

All horses were treated with antibiotics, and eight out of the 10 returned for follow-up cystoscopy. They responded rapidly to the



medication and showed clinical improvement with complete resolution of lesions in an average of six weeks. After the lesions and hematuria resolved, all 10 horses returned to their previous functions.

These findings make this an important differential diagnosis to consider when bladder cancer is suspected grossly or histologically in horses with hematuria. Since the conditions can look similar to both a clinician performing a cystoscopy and a pathologist reviewing a tissue sample, hemorrhagic cystitis could

certainly be a possibility. Such horses should therefore be rechecked after a period of two to four weeks of treatment, to confirm the diagnosis.

Dr. Fauna

Smith is a third-year resident in the Equine Internal Medicine Service. She earned her DVM from UC Davis in 2005 and then moved to New Zealand to work in a mixed animal and equine private practice. During this

time, Smith worked at Waikato Stud, the largest Thoroughbred stud farm in New Zealand. She presented this cystitis research to veterinarians from around the globe at the 2016 American Association of Equine Practitioners annual convention. As the veterinary school with the most comprehensive advanced training program in the world, UC Davis is able to offer its house officers (residents, interns, fellows) valuable research opportunities not available at other institutions, enhancing the dissemination of information that changes outcomes for horses.

