

What are the new/best treatment options for equine melanomas?

This column was written in response to a reader-submitted question

Regarding the melanomas in your horse's guttural pouch and on his neck, you do have treatment options that can be tried. Metastatic melanoma, however, remains a genuine treatment problem for many horse owners.

As you know from your experience and research, melanomas can and usually should be strategically ignored when they remain in a quiescent state. When they become locally invasive or metastatic—meaning tumor cells have disseminated to remote locations from the initial site—the masses can be difficult to manage effectively.

Unless the masses in the guttural pouch are causing problems by growing into blood vessels or impinging on one or more of the multiple cranial nerves that course through the pouches, they best are left alone.

For the masses on the neck, I would advise to have them evaluated for suitability for laser surgery or for intralesional chemotherapy, which refers to injecting a drug such as cisplatin directly into the masses. You might also investigate use of a tissue-based vaccine in which a sample of melanoma from your horse is sent to a company that will use the specimen to make a vaccine that you administer to your horse.

In the interim, while it sounds like administration of cimetidine may not be resulting in an actual decrease in the size of the masses, it may be limiting their growth. This may be important for the masses in the guttural pouch.

New developments involving gene therapy hold promise for managing melanomas.

One example is a vaccine (Oncept™) for dogs with melanoma of the oral cavity. That form of melanoma differs from melanoma in horses in that the canine oral form is an aggressive, rapidly fatal disease that causes the dog's demise within months of diagnosis. In horses, that melanoma is a more benign disease that chiefly causes local problems.

A common example is how a cluster of melanomas at the base of the tail deforms or obstructs the anal area. Most vaccines are used to prevent disease, but the melanoma vaccine is given as a treatment to dogs that already have melanoma.

What makes it a vaccine is that, when administered, it induces an immune response.

The vaccine contains a gene that codes for human tyrosinase, and exposure to this foreign protein goads the dog's immune cells to recognize tyrosinase in the tumor cells as also foreign and to destroy the cells. It has not been critically evaluated in equine melanomas but no doubt will be.

A second new treatment recently reported also uses gene therapy and involves injecting DNA segments that code for human interleukins—molecules that promote an inflammatory response—directly into equine melanomas.

This induced substantial regression in the tumors in 12 of 12 masses injected, and the tumor disappeared entirely in one instance. Definition and mapping of the gene sequences in the equine genome has made possible a better understanding of many disease processes, which enables highly targeted research into modes of combating the diseases.

Melanoma in horses is one such disease, and it is very possible that gene therapy will equip veterinarians and owners with an effective treatment for this problem in the near future.

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After completing veterinary school in 1988 at the University of California-Davis, Sprayberry worked at the Southern California racetracks before returning to Cal-Davis for an internal medicine residency in 1994.

In addition to practicing full time, she also stays busy in various aspects of veterinary medical journalism, and has worked as an assistant editor for *Journal of the American Veterinary Medical Association* and *American Journal of Veterinary Research*.

At present, Sprayberry is a co-editor for the textbook series *Current Therapy in Equine Medicine* and is a frequent contributor to other veterinary publications.

As a member of the Necropsy Committee headed by Mary Scollay, D.V.M., Sprayberry helped draft Kentucky's mandatory necropsy program. She also serves on the board of directors for the Equine Health and Welfare Association and for the biotechnology company Equinext.

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